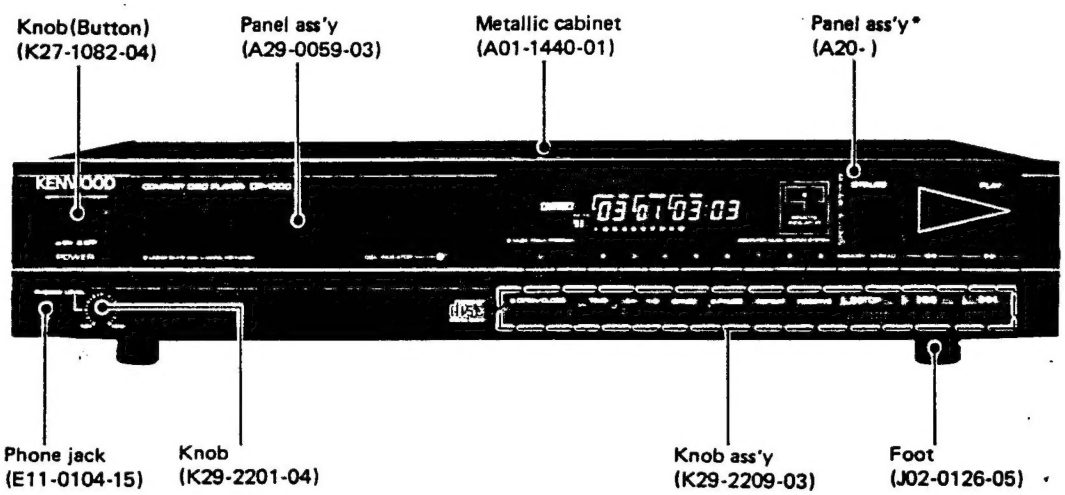
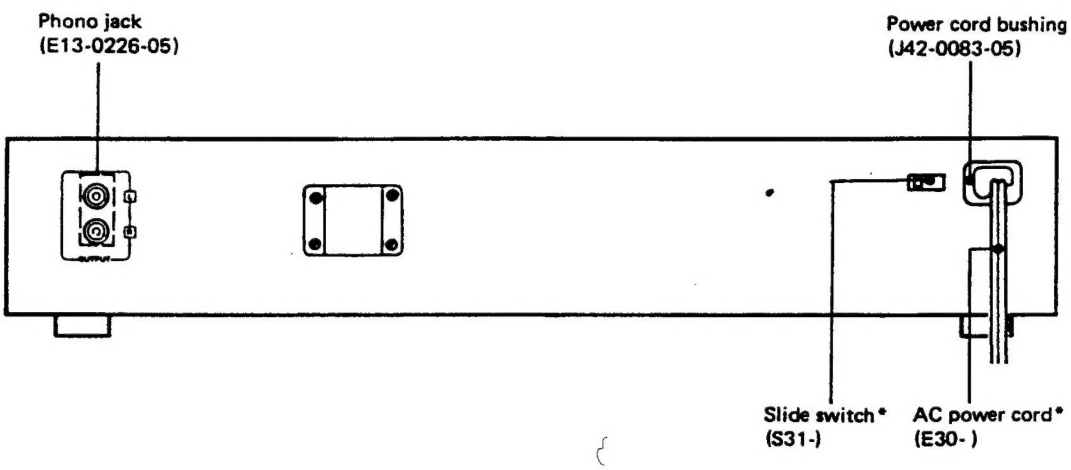
SERVICE MANUAL

KENWOOD

DP-1000

COMPACT DISC PLAYER





In compliance with Federal regulations, following are reproductions of labels on or inside the product relating to laser product safety.

[illegible] KENWOOD Corp. certifies this equipment conforms to DHHS Regulations No. 21 CFR [illegible] subchapter J.

DANGER - Invisible laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.

THE QUALITY OF THIS MANUAL IS THE BEST THAT IS AVAILABLE

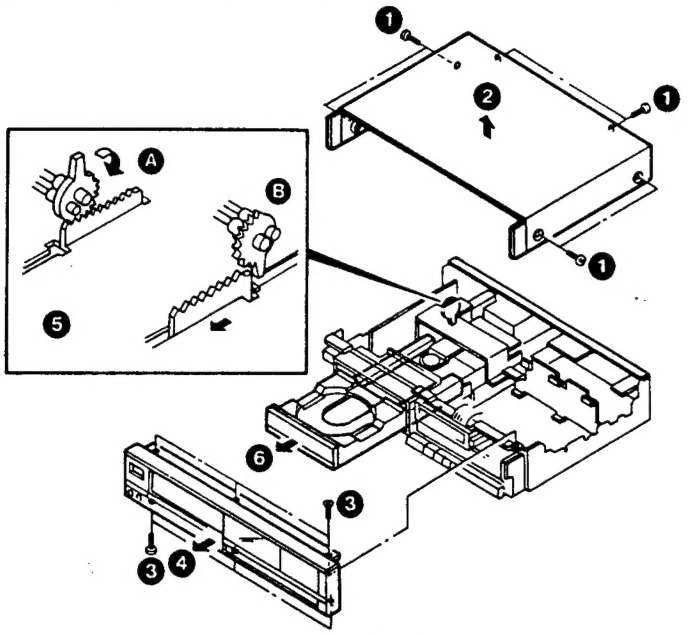
*Refer to parts list on page 16.

DISASSEMBLY FOR REPAIR

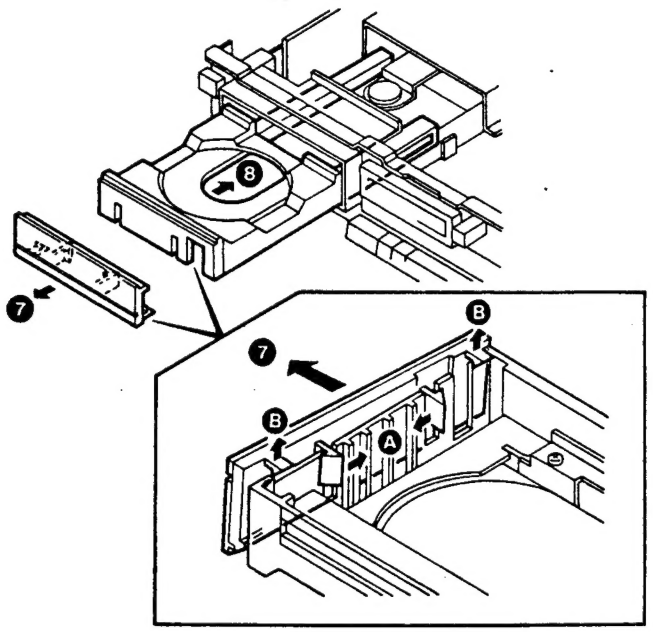
MECHANISM DISASSEMBLY PROCEDURE

Note : The AC cord must be pulled off before starting the following procedure.

1. Remove the case (❶ , ❷).
2. Remove the six set screws at the top and bottom of the front panel (❸). (The top three screws are flat pan-head screws.)
3. Slowing remove the panel toward you (❹).
4. Turn the stem of the gear located at the rear left as indicated (toward Ⓐ until it stops at the bottom (see Ⓑ). This drives the tray toward you (❺).
5. Slowly pull the tray out toward you (❻).



6. Push in the tray panel clamping hooks as indicated by Ⓐ and Ⓑ to remove tray panel (❼).
7. After removing the tray panel, slowly push back the tray into the set (❽).



For Service Manuals Contact
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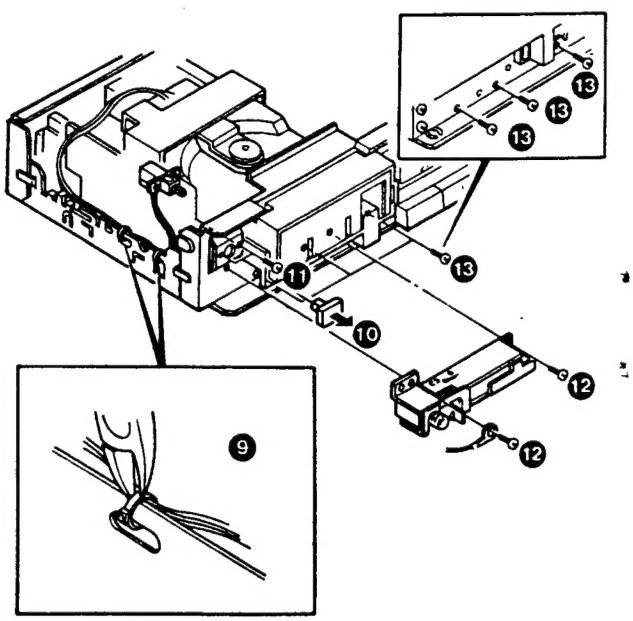
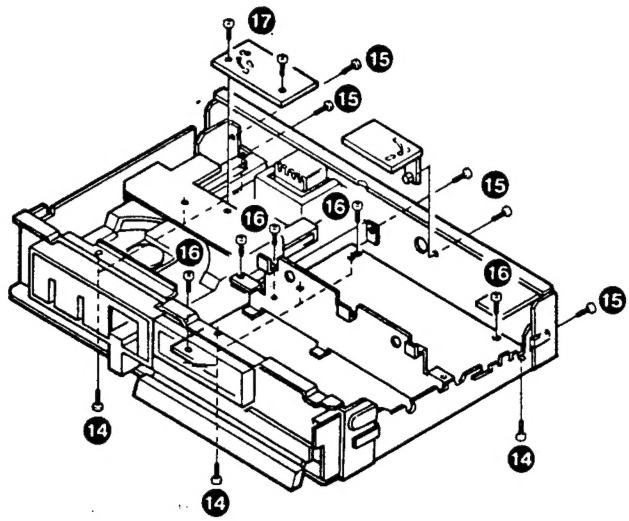
8. Cut the wire clamper, loosen the two set screws of the power switch knob, and then remove the power switch from the chassis (❾ , ❿ , ⓫).
9. Remove the headphone board from the front bottom of the tray (⓬ , ⓭).

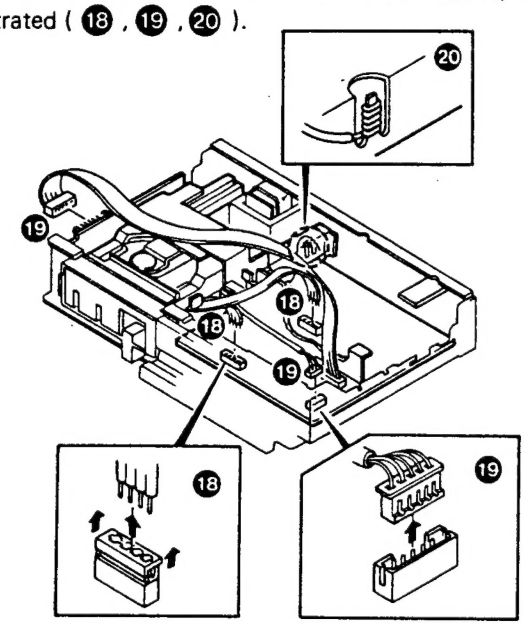


DISASSEMBLY FOR REPAIR

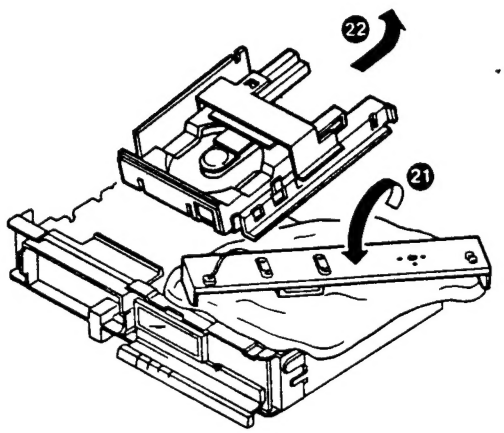
10. Remove the mechanism set screws, some of the back-panel and circuit board set screws (⑭ , ⑮ , ⑯ , ⑰).



11. Remove the cable connectors and wrapping, which connect the mechanism to other circuit boards, as illustrated (⑱ , ⑲ , ⑳).



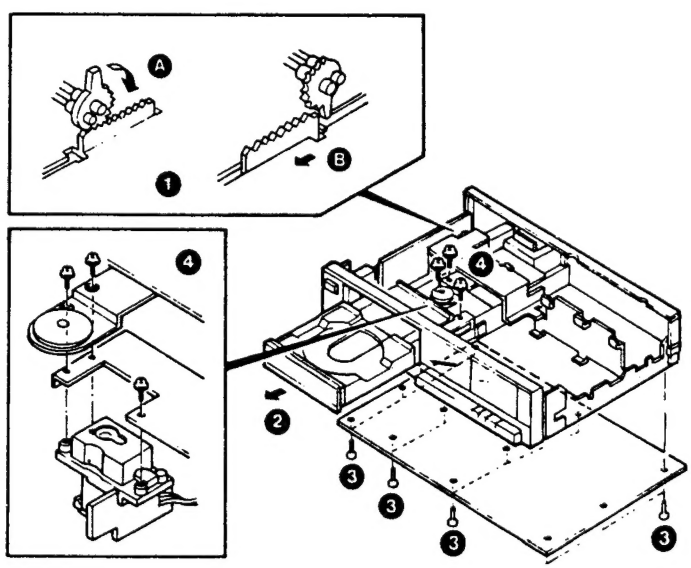
12. Cover the set with a piece of cloth and put the back paenl on it (㉑).
    Then, slowly pull the mechanism off backward (㉒).



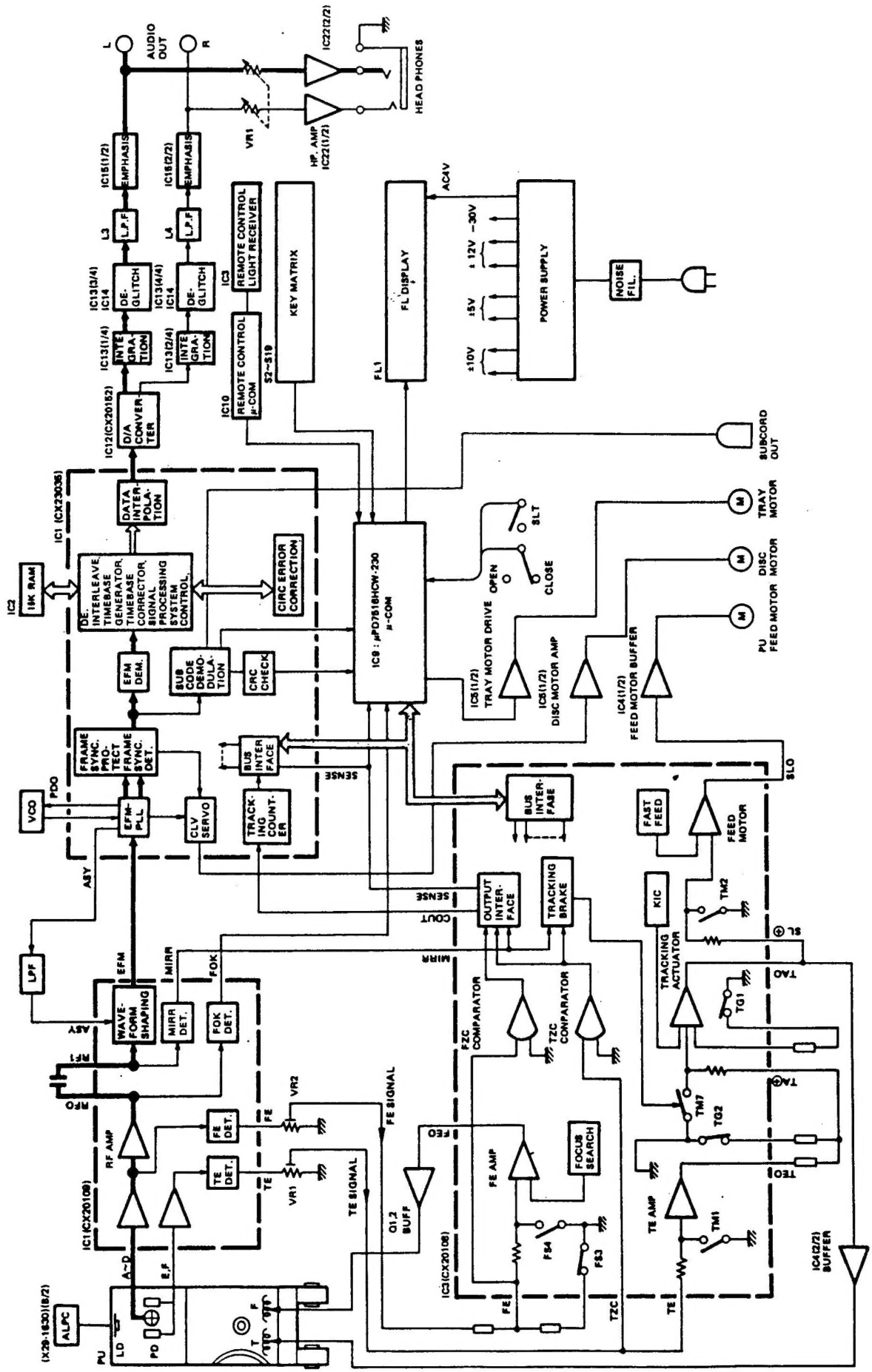
LASER PICKUP DISASSEMBLY PROCEDURE

1. Turn the rear left gear stem as indicated by Ⓐ to the bottom Ⓑ ; similarly to the mechanism disassembly procedure (❶), and pull the tray off toward you (❷).
2. Remove the bottom plate set screws (❸).
3. Remove the three screws setting the laser pickup to the mechanism (❹).

Note : The laser pickup should not be removed unless it is determined to be malfunctions.
When mounting a new laser pickup, all possible anti-electrostatic measures should be taken (against the work desk, human body, and soldering iron, etc.). The laser diode short pin should be remained attached until immediately before the set is operated as far as possible. A failure to observe any of these precautions may shorted the laser diode life, resulting in a malfunction of the set in a shorter period.



BLOCK DIAGRAM



CIRCUIT DESCRIPTION

Description of components

CONTROL CIRCUIT UNIT (X29-1632-72)

Components	Purpose/Function	Operation/Condition/Compatibility
IC1	3-beam light PU pre-amplifier	Generates a focus error signal, a tracking error signal, and an RF signal. This also provides a phase and an automatic symmetry correction capabilities. (See the DP-2000 Service Manual for details.)
IC3	Remote control pre-amplifier	Amplifies and converts the infra-red signal input from the infra-red diode to a digital signal (0V~5V).
Q1	IC1 FOK current amplifier	Used as an emitter follower to serve as an FOK current amplifier.
Q4	FL driving transistor	Used as an emitter follower to supplement the current of the output port to the microprocessor.
Q5	FOK buffer	FOKS signal current amplifier

PROCESSOR UNIT (X32-1050-11)

Components	Purpose/Function	Operation/Condition/Compatibility
IC1	Signal processing IC	Provides EFM demodulation, synchronizing separation, error correction, CLV servo, and PLL. (See the DP-2000 Service Manual for details.)
IC2	Memory S-RAM	Compatible with the following IC products : CXK5816M (Sony), HM6116FP-4 (Hitachi), MB8416-20LPF (Fujitsu), and TC5517AF-2 (Toshiba).
IC3	Servo IC	Generates "search" pulses for addressing the focus servo, tracking servo, or drive motor servo. (See the DP-2000 Service Manual for details.)
IC4	Power operational amplifier	Tracking actuator driver (2/2) and feed motor driver (1/2).
IC5	Power operational amplifier	Disc motor driver (1/2) and tray motor driver (1/2).
IC6	Operational amplifier	CLV servo amplifier (2/2) and PLL amplifier (1/2).
IC7	C-MOS NAND GATE	Used as invertors (1/4, 3/4, and 4/4) and a clock selector (2/4). When pin 3 of IC9 (CHNG) is "H", the clock selector feeds WFCK from pin 25 of IC1 to pin 9 of IC9 (SCK). When "L", it feeds clock SCK from pin 9 of IC9 to the CLK inputs of KC1 and IC3.
IC8	C-MOS 4-bit data selector	When pin 58 of IC9 (AKEY) is "L", this selector inputs data from IC10; the remote control microprocessor to K0 through K3 of IC9. When "H", it inputs the scan input from the tact switch to K0 through K3 of IC9.
IC9	Main microprocessor	Controls display and DP-1000 set operation.
IC10	Remote control microprocessor	When the data from the remote control preamplifier agrees with the custom code of the set, this processor informs the main microprocessor IC9 that the data has arrived and then transfers the data to it.
IC11	Reset IC	This IC resets the set by maintaining its output (pin 3) at "L" until the input voltage (pin 1) rises up to 4.4V±0.2V after the set is turned on. Capacitor 7 (3.3μF) determines the duration of the reset signal.
IC12	D/A converter	Provides the same function as CX20017 but cannot be replaced with CX20017. (See the DP-2000 Service Manual for details.)
IC13	FET input operational amplifier	DAC output I–V conversion (1/4, 2/4) and sample holding (3/4, 4/4).
IC14	C-MOS analog switch	Used as the switch for the sample holding circuits.
IC15	Operational amplifier	Functions as a de-emphasis circuit and an output amplifier.
IC16	3-terminal regulator	Supplies the + 5V source to the digital and servo system.
IC17	3-terminal regulator	Supplies the –5V source to the servo system.
IC18	3-terminal regulator	Supplies the + 12V source to the DAC system.
IC19	3-terminal regulator	Supplies the –12V source to the DAC system.
IC20	3-terminal regulator	Supplies the –5V source to the DAC system.
IC21	3-terminal regulator	Supplies the + 5V source to the DAC system.
IC22	Headphone amplifier	
Q1,Q2	Focus driver	Current buffer for the output of the focus servo amplifier IC3.
Q3	Inverting level shifter	Inverts the MON output of IC1, shifting the level from "L" to –12V and "H" to + 5V.
Q4	Switch	Lowers the ASY terminal of CN8 to –12V to disable the automatic symmetry circuit when the MON output of IC1 is "L". This transistor is disabled when the MON terminal is "H".
Q5	Switch	This FET transistor removes the offset from IC5 (1/2) to disable the disc motor when the MON output of IC1 is "L". When the MON terminal is "H", it is open.

CIRCUIT DESCRIPTION

Components	Purpose/Function	Operation/condition/compatibility
Q6	Constant-voltage circuit	Constant-voltage circuit supplying the power to the PU ALPC. The output (emitter) is –9V.
Q7	Switch	This circuit turns on/off the PU laser by controlling the base potential of Q6 via the LDC output of IC9 (pin 1). It turns the laser on when LDC is "H", and turns the laser off when "L".
Q8	Transient LED turning-on prevention circuit	Prevents the remote controlling LED from turning on when power is turned on or off. This transistor is in conduction (on) while the reset ("L") signal from IC11 is active ("H").
Q9	De-emphasis circuit inverter	Inverts the emphasis signal from the microprocessor IC9 (pin 64).
Q10	De-emphasis circuit level shifter	Shifts the emphasis signal level from the microprocessor IC9 (pin 46) from "H" to + 12V and "L" to –12V.
Q11	Muting relay driver	When the $\overline{\text{R-MUT}}$ output from IC9 (pin 2) is "H", this transistor turns on, disabling muting. When "L", it turns off, enabling muting.
Q12	Constant-current FET	This FET generates the reference potential for the current to be supplied to one DAC set. It is used in conjunction with D35 to provide a drain voltage of approximately + 2.5V.
Q13	Constant-current FET	Determines the DAC bias current.
Q14,Q15	Discharge FET's	Functions as the switch to discharge the charge stored in the DAC output I–V conversion capacitor.
Q16,Q17	De-emphasis switch	These FET's functions as a switch to insert or remove a de-emphasis constant in parallel with the IC15 feedback resistor.

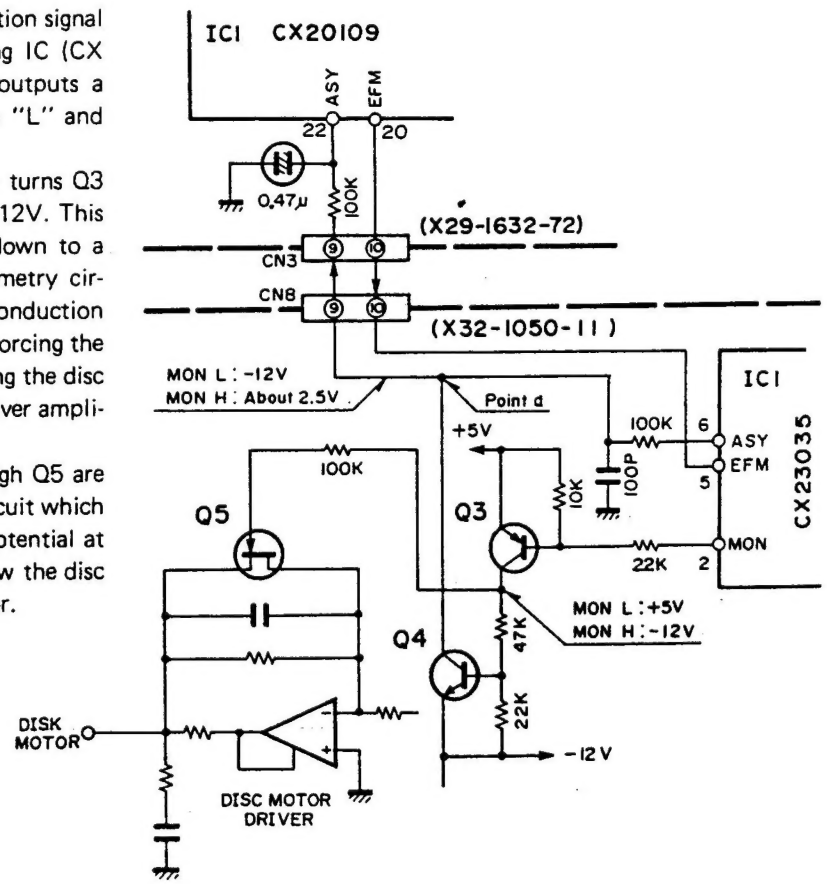
Circuit Operation Descriptions

EFM Signal inout inhibiting circuit

The DP-1000 uses the disc motor drive instruction signal to input the EFM signal to the signal processing IC (CX 23035). The MON terminal of the CX23035 outputs a signal which disables the disc motor when it is "L" and drives the disc motor when it is "H".

"L" at the MON terminal turns Q3 on which turns Q3 on in turn, lowering the voltage at point a to –12V. This also pulls the ASY terminal of the CX20109 down to a negative potential, disabling the automatic symmetry circuit and fixing the EFM terminal at "H". Q3 in conduction also keeps Q5 in conduction or in the on state, forcing the disc motor driver output at 0V and thus preventing the disc motor from being turned by the offset of the driver amplifier.

When the MON terminal rises "H", Q3 through Q5 are turned off, enabling the automatic symmetry circuit which supplies the EFM signal to the CX23035. The potential at point a rises up to approximately + 2.5V to allow the disc motor driver to feed the drive voltage to the motor.



CIRCUIT DESCRIPTION

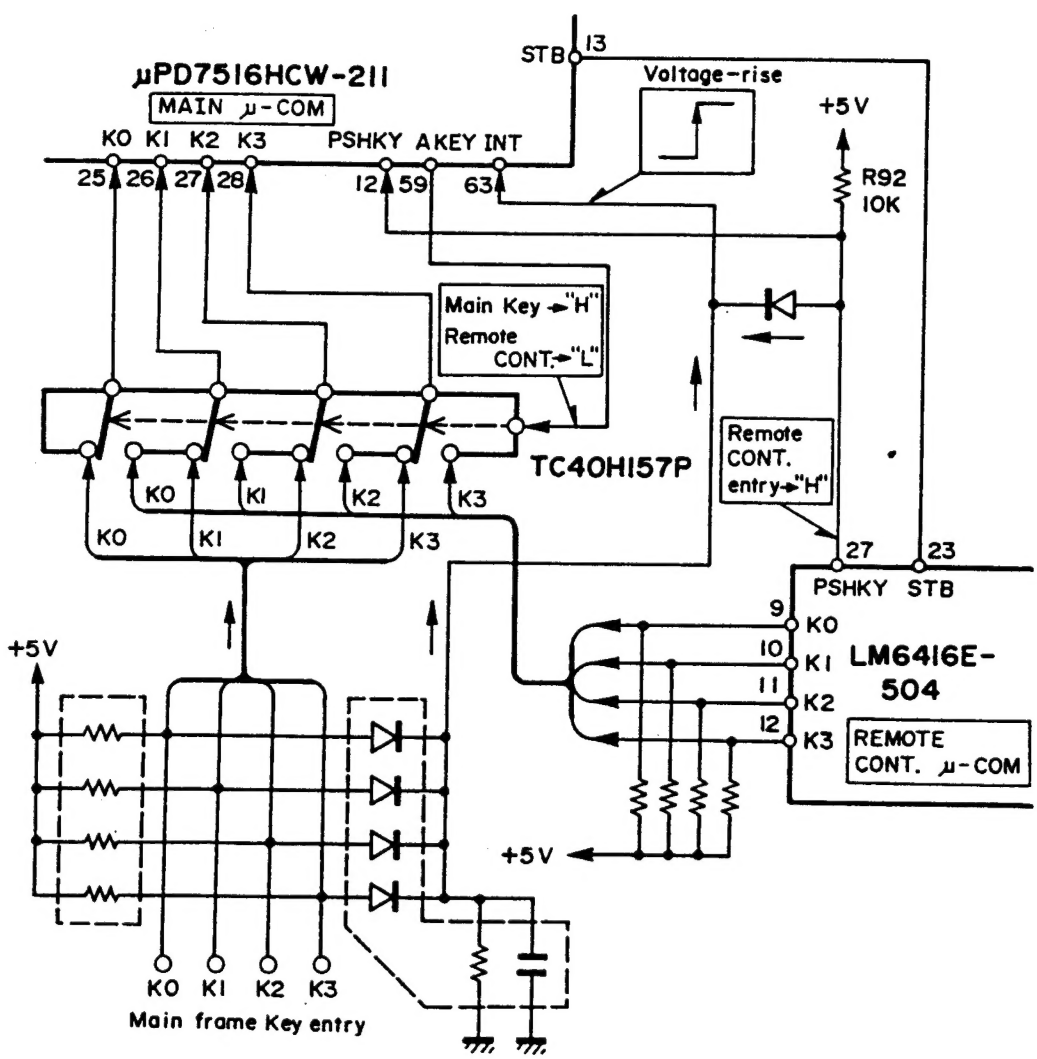
Remote control/Key data switching circuit

To inform the main microprocessor (μPD7516HCW) that any instruction has arrived from a main frame key or the remote control microprocessor, a signal voltage rise edge must be given to its INT terminal (pin 63). When a main frame key is pressed, some of K0 through K3 rises which are fed to the INT terminal through the composite element diodes. When the remote control microprocessor receives any remote control data, it determines what the data is and raises its PSHKY terminal from "L" to "H". This change is transmitted to the INT terminal of the main microprocessor through a diode.

When a voltage rise edge (⎍) is received at its INT terminal, the main microprocessor check to find if the PSHKY terminal is "H". If it is, the main microprocessor determines that the instruciton is from the remote control microprocessor. Otherwise, it determines that the instruction is from a main frame key.

Through a PSHKY logic, the main microprocessor gives an instruction ("H" when the instruciton is from a main frame key or "L" otherwise) to the TC40H157P data selector via the AKEY terminal. According this instruction, the data selector properly routes the data from the main frame key or the remote control microprocessor.

Data from a main frame key is input to the main microprocessor through a key scan. When receiving data from the remote control microprocessor, the main microprocessor sends a clock signal to the remote control microprocessor which responds with a timing signal via the STB terminal. The main microprocessor strobes the data in by using the timing clock available at its STB terminal.



ADJUSTMENT

No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG
1	VCO ADJUSTMENT	–	Connect an f-counter across TP11 and GND.	Tray open, or stop mode	Turn core of coil of L1 of X32-1050(A/4)	4.23MHz	(a)
2	LASER POWER CHECK (When PU may be defective)	–	Set an optical power meter above the pickup.	Tray - open. Connect the base of Q7 of X32-1050(A/4) to the GND.	–	OK if from 200μW to 300μW.	(b)
3	LASER OPERATING CURRENT CHECK (When PU may be defective)	–	Measure the voltage across two ends of R4 of X32-1050(A/4).	Tray - open. Connect the base of Q7 of X32-1050(A/4) to the GND.	–	Acceptable when larger by 5 to 6mA then the current marked on the pickup.	(c)
4	RF OFFSET ADJUSTMENT	–	Connect an oscilloscope to TP2(RF) of X29-1632(B/6). Connect the scope's GND to TP1(GND).	Tray open, or stop mode.	Turn VR5 of X29-1632(B/6). (RF OFFSET)	Adjust to -0.60(V).	(d)
5	TEST MODE SETUP	Place test disc Type 3 on the tray and set the unit to the loaded condition.	Short-circuit between TP12 and TP13 of X32-1050(A/4).	Turn POWER SW OFF then ON again.	–	Check that the display is "01 ‥ 00:00"	(e)
6	TANGENTIAL SETTING	Place test disc Type 3 on the tray and set the unit to the loaded condition.	Connect and oscilloscope to TP2(RF) of X29-1632(B/6).	Press M-READ, and laser is focused. (In the test mode.)	Hex socket screw below mechanism	Maximum amplitude	(d)
7	FOCUS OFFSET COARSE ADJUSTMENT	Place test disc Type 3 on the tray and set the unit to the loaded condition.	Connect and oscilloscope to TP2(RF of X29-1632(B/6).	Press M-READ, and laser is focused. (In the test mode.)	Turn VR3 of X29-1632(B/6).	Maximum amplitude	(d)
8	DIFFRACTION GRID ADJUSTMENT (PU)	Place test disc Type 3 on the tray and set the unit to the loaded condition.	Connect CH1 of oscilloscope to TP2(RF) of X29-1632(B/6), and CH2 to TP3(TE).	Press M-READ, and laser is focused. (In the test mode.)	Pickup adusting hole– Use the grid driver.	See Fig. 1.	(f)
9	T. ERROR BALANCE COARSE ADJUSTMENT	Place test disc Type 3 on the tray and set the unit to the loaded condition.	Connect CH1 of oscilloscope to TP2(RF) of X29-1632(B/6), and CH2 to TP3(TE).	Press M-READ, and laser is focused. (In the test mode.)	Turn VR4 of X29-1632(B/6).	Adjust so that the T. ERROR amplitude is symmetrical above and below 0(V). (Photo 5)	(f)
10	TANGENTIAL AND FOCUS OFFSET FINE ADJUSTMENTS	Place test disc Type 3 on the tray and set the unit to the loaded condition.	Connect and oscilloscope to TP2(RF of X29-1632(B/6).	Press the PLAY Key. (The unit starts the trace operation.) (In the test mode.)	VR3 of X29-1632(B/6), and hex socket screw above mechanism	Alternately turn VR3 and hex socket screw to obtain optimum waveform.	(d)
11	T. ERROR BALANCE FINE ADJUSTMENT	Place test disc Type 3 on the tray and set the unit to the loaded condition.	Connect CH1 of oscilloscope to TP2(RF) of X29-1632(B/6), and CH2 to TP3(TE).	Press the M-READ Key (with focus servo only). (In the test mode.)	Turn VR4 of X29-1632(B/6).	Adjust so that the T. ERROR amplitude is symmetrical above and below 0(V). (Photo 5)	(f)
12	FOCUS GAIN ADJUSTMENT	Place a test disc which is as flawless as possible, and complete loading.	Connect a servo-adjusting jig to CN4 of X29-1632. (f=1.0kHz, V OUT=40mVrms)	Trun POWER SW OFF then ON again, and press the PLAY key to start normal play.	Trun VR2 of X29-1632(B/6).	Adjust so that the millivoltmeter connected to the jig indicates 40mVrms.	(g)
13	TRACKING GAIN ADJUSTMENT	Place a test disc which is as flawless as possible, and complete loading.	Connect a servo-adjusting jig to CN4 of X29-1632. (f=1.0kHz, V OUT=40mVrms)	Normal play	Turn VR1 of X29-1632(B/6).	Adjust so that the millivoltmeter connected to the jig indicates 40mVrms.	(g)
14	DAC ADJUSTMENT	Test disc YDS-7 Type 3	Connect a millivoltmeter to the output terminal.	Play 1kHz, 0dB signal.	VR2 of X32-1050(A/4).	Adjust to obtain the output level from 1.9 to 2.0Vrms.	(h)

ADJUSTMENT

Diffraction grid adjustment

Adjust in the test mode (with focus servo only)

Note : The test mode is the condition in which power is turned on after short-circuiting between TP12 (TEST-12) and TP13 (D.GND-13) in the signal processing unit (X32-1050-00) (A/4).
For details, refer to the DP-2000's service manual.

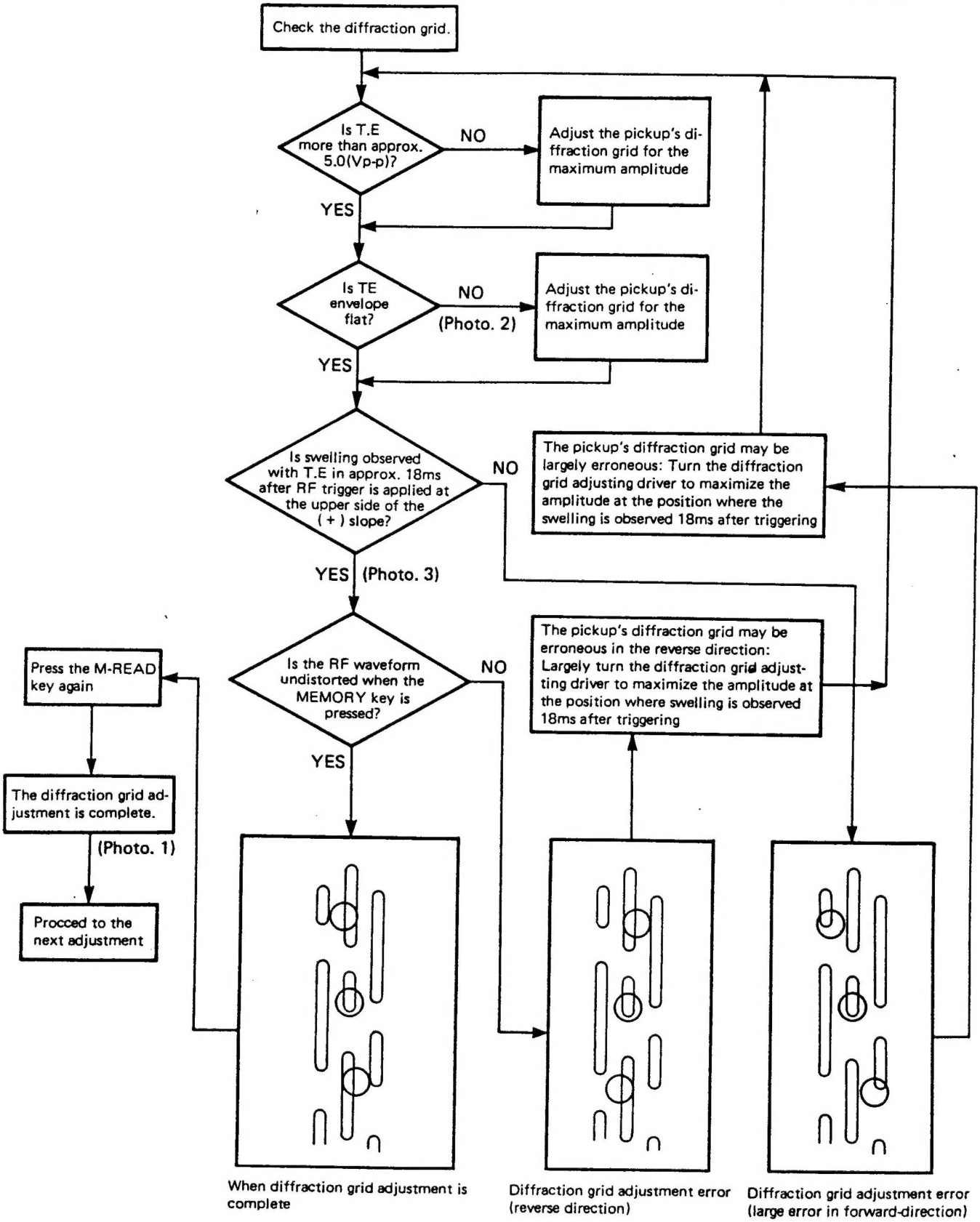


Fig. 1

REGLAGE

N°	ITEM	REGLAGE D'ENTREE	REGLAGE DE SORTIE	REGLAGE DE LA LE CTURE	POINT D'ALIGNEMENT	ALIGNEMENT POUR	FIG
1	RÉGLAGE VCO	–	Raccorder un compteur f entre TP11 et GND	Tiroir ouvert ou mode d'arret	Tourner le noyau de bobine de L1 de X32-1050(A/4)	4.23MHz	(a)
2	VÉRIFICATION DE PUISSANCE DE LASER (Quand PU peut être défectueux)	–	Placer un compteur de puissance optique au-dessus du capteur	Tiroir ouvert. Raccorder la base de Q7 de X32-1050(A/4) à GND.	–	Correct si entre 200μW et 300μW.	(b)
3	VERIFICATION DU COURANT DE FONCTIONNEMENT DU LASER(Quand PU peut etre defectueux)	–	Mesurer la tension entre les deux extrémités de R4 de X32-1050(A/4)	Tiroir ouvert. Raccorder la base de Q7 de X32-1050(A/4) à GND.	–	Acceptable si supérieur de 5 à 6mA au courant marqué sur le capteur.	(c)
4	RÉGLAGE DE SUPPRESSION HF	–	Raccorder un oscilloscope à TP2(HF) de X29-1632(B/6). Raccorder GND de l'oscilloscope a TP1(GND).	Tiroir ouvert ou mode d'arrêt.	Tourner VR5 de X29-1632(B/6). (RF OFFSET)	Ajuster sur -0.60(V)	(d)
5	MONTAGE DU MODE DE TEST	Placer un disque test de type 3 sur le tiroir et régler l'appareil en condition de chargement.	Court-circuiter entre TP12 et TP13 de X32-1050(A/4).	Placer l'interrupteur POWER OFF à nonveau sur ON.	–	Vérifier que l'affichage est "01 •• 00:00".	(e)
6	RÉGLAGE TANGENTIEL	Placer un disque test de type 3 sur le tiroir et régler l'appareil en condition de chargement.	Raccorder un oscilloscope à TP2(RF) de X29-1632(B/6).	Presser M-READ et le laser est mis au point. (En mode de test)	Vis à prise hexagonale sous le mécanisme	Amplitude maximum.	(d)
7	RÉGLAGE APPROXIMATIF DE LA SUPPRESSION DE MISE AU POINT	Placer un disque test de type 3 sur le tiroir et régler l'appareil en condition de chargement.	Raccorder un oscilloscope à TP2(RF) de X29-1632(B/6).	Presser M-READ et le laser est mis au point. (En mode de test)	Tourner VR3 de X29-1632(B/6).	Amplitude maximum	(d)
8	RÉGLAGE DU RÉSEAU DE DIFFRACTION(PU)	Placer un disque test de type 3 sur le tiroir et régler l'appareil en condition de chargement.	Raccorder le CH1 d'un oscilloscope à TP2(RF) de X29-1632(B/6) et CH2 a TP3(TE).	Presser M-READ et le laser est mis au point. (En mode de test)	Trou de réglage du capteur—Utiliser l'entraîneur de réseau.	Voir la figure 1.	(f)
9	RÉGLAGE APPROXIMATIF DE LA BALANCE T.ERROR.	Placer un disque test de type 3 sur le tiroir et régler l'appareil en condition de chargement.	Raccorder le CH1 d'un oscilloscope à TP2(RF) de X29-1632(B/6) et CH2 a TP3(TE).	Presser M-READ et le laser est mis au point. (En mode de test)	Tourner VR4 de X29-1632(B/6).	Régler de manière à ce que l'amplitude T.ERROR soit symétrique en dessus et au dessous de 0(V). (Photo 5)	(f)
10	RÉGLAGES PRÉCIS DE LA SUPPRESSION TANGENTIELLE ET DE MISE AU POINT.	Placer un disque test de type 3 sur le tiroir et régler l'appareil en condition de chargement.	Raccorder un oscilloscope à TP2(RF) de X29-1632(B/6).	Presser la touche PLAY. (L'appareil commence le reperage.) (Dans le mode de test.)	VR3 de X29-1632(B/6) et vis a prise hexagonale au-dessus du mecanisme.	Tourner alternativement VR3 et la vis à prise hexagonale pour obtenir la forme d'onde optimale.	(d)
11	RÉGLAGE PRÉCIS DE LA BALANCE T.ERROR.	Placer un disque test de type 3 sur le tiroir et régler l'appareil en condition de chargement.	Raccorder le CH1 d'un oscilloscope à TP2(RF) de X29-1632(B/6) et CH2 a TP3(TE).	Presser la touche M-READ (avec asservissement de mise au point seulement). (Dans le mode de test.)	Tourner VR4 de X29-1632(B/6).	Ajuster de maniere à ce que l'amplitude T.ERROR soit symétrique en dessus et au dessous de 0(V) (Photo 5)	(f)
12	RÉGLAGE DU GAIN DE MISE AU POINT	Placer un disque test le plus parfait possible et effectuer le chargement.	Raccorder un gabarit de reglage d'asservissement a CN4 de X29-1632. (f=1.0kHz. V OUT=40mVrms)	Placer l'interrupteur POWER OFF à nouveau sur ON et presser la touche PLAY pour commencer la lecture normale.	Tourner VR2 de X29-1632(B/6).	Régler de manière à ce que le millivoltmetre raccordé au gabarit indique 40mVrms.	(g)

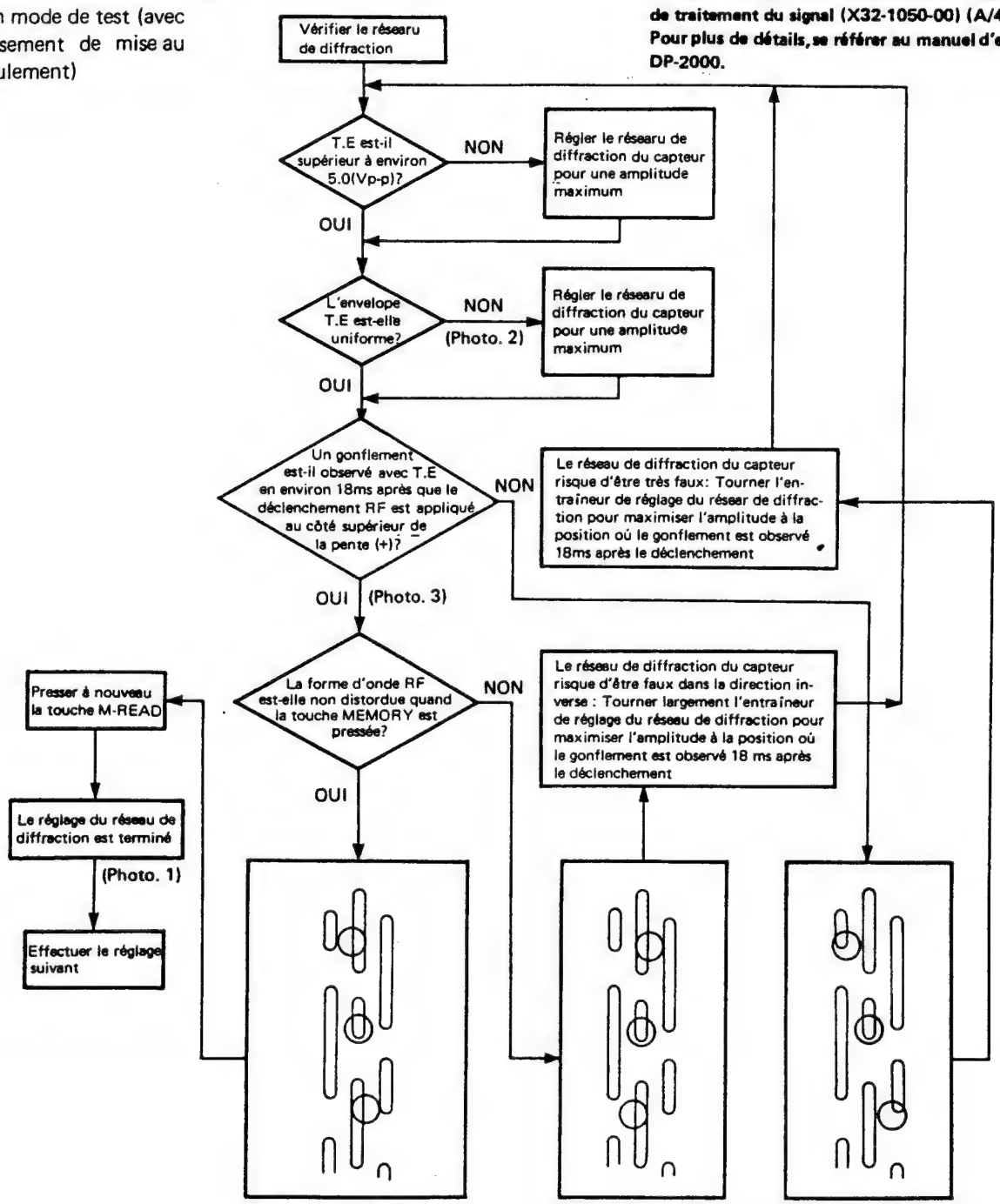
REGLAGE

N°	ITEM	REGLAGE D'ENTREE	REGLAGE DE SORTIE	REGLAGE DE LA LE CTURE	POINT D'ALIGNEMENT	ALIGNEMENT POUR	FIG
13	RÉGLAGE DU GAIN D'ALIGNEMENT	Placer un disque test le plus parfait possible et effectuer le chargement.	Raccorder un gabarit de réglage d'asservissement à CN4 de X29-1632. (f=1.0kHz. V OUT=40mVrms).	Lecture normale	Tourner VR2 de X29-1632(B/6)	Régler de maniere à ce que le millivoltmètre raccordé au gabarit indique 40mVrms.	(g)
14	REGLAGE DAC	Disque test YDS-7 Type 3	Raccorder un millivoltmètre à la borne de sortie.	Lire un signal d'1kHz, 0dB.	Tourner VR2 de X32-1632(A/4)	Régler pour obtenir un niveau de sortie entre 1.9 et 2.0Vrms.	(h)

Remarque : Le mode de test est la condition dans laquelle l'alimentation est fournie après avoir court-circuité entre TP12 (TEST-12) et TP13 (D.GND-13) dans l'appareil de traitement du signal (X32-1050-00) (A/4).
Pour plus de détails, se référer au manuel d'entretien du DP-2000.

Réglage du réseau de diffraction

Régler en mode de test (avec l'asservissement de mise au point seulement)



Quand le réglage du réseau de diffraction est terminé

Erreur de réglage du réseau de diffraction (Direction inverse)

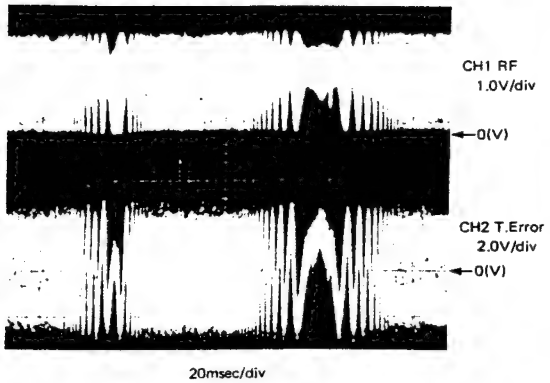
Erreur de réglage du réseau de diffraction (grande erreur en direction avant)

Fig. 1

ABGLEICH

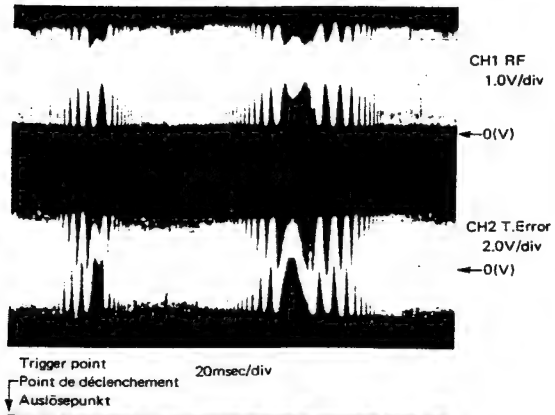
NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNGE	SPIELER-EINSTELLUNG	ABGLEICH-PUNKT	ABGLEICHUNG	ABB.
1	VCO-EINSTELLUNG	–	Einen Frequenzzähler zwischen TP11 und GND anschließen.	Träger geöffnet oder Stop-Betriebsart	Kern der Spule von L1 von X32-1050 (A/4) drehen	4.23MHz	(a)
2	LASERLEISTUNGS PRÜFUNG (wenn PU defekt sein könnte)	–	Einen optischen Leistungsmesser über den Tonabnehmer setzen	Träger - geöffet. Die Basis von Q7 von X32-1050(A/4) mit GND verbinden.	–	In Ordnung wenn zwischen 200μW und 300μW.	(b)
3	LASERBETRIEBSSTROM PRÜFUNG (wenn PU defekt sein könnte)	–	Die Spannung zwischen den beiden Enden von R4 von X32-1050(A/4) messen.	Träger - geöffet. Die Basis von Q7 von X32-1050(A/4) mit GND verbinden.	–	Akzeptierbar, wenn um 5 bis 6mA größer als der auf dem Tonabnehmer angegebene Strom.	(c)
4	HF VERSATZ EINSTELLUNG	–	Ein Oszilloskop an TP2(HF) von X29-1632(B/6) anschließen. Die Masse des Oszilloskops an TP1(GND) anschließen.	Träer geöffnet oder Stop-Betriebsart.	VR5 von X29-1632(B/6) drehen. (HF-VERSATZ)	Auf -0.60(V) einstellen.	(d)
5	ANSCHLÜSSE FÜR TEST BETRIEBSART	Die Test-Disc Typ 3 auf den Träger legen und das Gerät auf den geladenen Zustand einstellen.	TP12 und TP13 von X32-1050(A/4) Kurzschließen.	Netzschalter aus und danach einschalten.	–	Überprüfen, daß auf dem Display "01 ₀₀ 00:00" angezeigt wird.	(e)
6	TANGENTIAL EINSTELLUNG	Die Test-Disc Typ 3 auf den Träger legen und das Gerät auf den geladenen Zustand einstellen.	Ein Oszilloskop an TP2(HF) von X29-1632(B/6) anschließen.	M-READ drucken, dann wird der Laser fokussiert. (In der Test Betriebsart.)	Innensechskant-schraube unter Mechaniamus	Maximale Amplitude	(d)
7	FOKUSVERSATZ GROBEINSTELLUNG	Die Test-Disc Typ 3 auf den Träger legen und das Gerät auf den geladenen Zustand einstellen.	Ein Oszilloskop an TP2(HF) von X29-1632(B/6) anschließen.	M-READ drucken, dann wird der Laser fokussiert. (In der Test Betriebsart.)	VR3 von X29-1632(B/6) drehen.	Maximale Amplitude	(d)
8	BEUGUNGSGITTER EINSTELLUNG (PU)	Die Test-Disc Typ 3 auf den Träger legen und das Gerät auf den geladenen Zustand einstellen.	Kanal 1 eines Oszilloskops an TP2(HF) von X29-1632(B/6) und Kanal 2 an TP3(TE) anschließen.	M-READ drucken, dann wird der Laser fokussiert. (In der Test Betriebsart.)	Tonabnehmer Einstellöffnung Den Gitter Schraubenzieher verwenden.	Siehe Abb. 1.	(f)
9	T.ERROR BALANCE GROBEINSTELLUNG	Die Test-Disc Typ 3 auf den Träger legen und das Gerät auf den geladenen Zustand einstellen.	Kanal 1 eines Oszilloskops an TP2(HF) von X29-1632(B/6) und Kanal 2 an TP3(TE) anschließen.	M-READ drucken, dann wird der Laser fokussiert. (In der Test Betriebsart.)	VR4 von X29-1632(B/6) drehen.	So einstellen, daß die T.ERROR Amplitude über und unter 0(V) symmetrisch ist. (Foto 5)	(f)
10	TANGENTIAL UND FOKUSVERSATZ FEINEINSTELLUNGEN	Die Test-Disc Typ 3 auf den Träger legen und das Gerät auf den geladenen Zustand einstellen.	Ein Oszilloskop an TP2(HF) von X29-1632(B/6) anschließen.	Die PLAY-Taste drucken.(Däs Gerat startet den abtast Betrieb.)(In order Test-Betriebsart.)	VR3 von X29-1632(B/6) und Innensechskant-schraube über Mechaniamus	VR3 und die Innensechskant-schraube abwechselnd drehen, um dis optimale Wellenform zu erhalten.	(d)
11	T-ERROR BALANCE FEINEINSTELLUNG	Die Test-Disc Typ 3 auf den Träger legen und das Gerät auf den geladenen Zustand einstellen.	Kanal 1 eines Oszilloskop an TP2(HF) von X29-1632(B/6) und Kanal 2 an TP3(TE) anschließen.	Die M-READ-Taste drücken.(nur mit Fokusserbo.) (In der Test Betriebsart.)	VR4 von X29 1632(B/6) drehen.	So einstellen, daß die T.ERROR-Amplitude über und unter 0(V) symmestrisch ist. (Foto 5)	(d)
12	FOKUSVERSTÄRKUNG EINSTELLUNG	Eine Test-Disc, die so einwandfrei wie möglich sein sollte, auflegen und laden.	Eine Servo Einstellvorrichtung an CN4 von X29-1632 anschließen. (f=1.0kHz, V OUT=40mVrms)	Den Netzschalter aus-und wieder einschalten und die PLAY-Taste drucken, um die normale Wiedergabe zu starten.	VR2 von X29-1632(B/6) drehen.	So einstellen, daß der an die Vorrichtung angeschlossene Millivoltmeter 40mVrms anzeigt.	(g)

ADJUSTMENT/REGLAGE/ABGLEICH



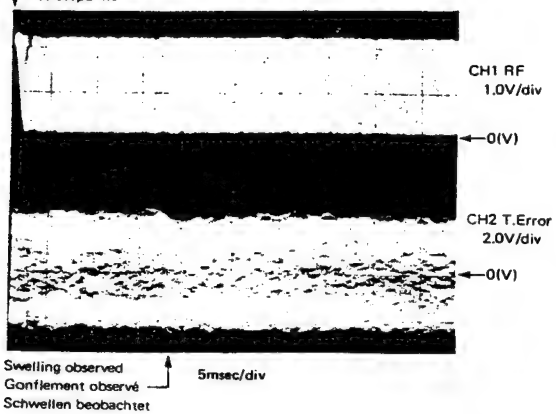
- RF signal and T.Error signal after completion of diffraction grid adjustment
- Signal RF et signal E.ERROR après avoir terminé le réglage du réseau de diffraction.
- HF-Signal und T.-Fehlersignal nach Beendigung der Beugungsgitter-Einstellung

(Photo. 1)
(Photo. 1)
(Foto. 1)



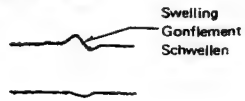
- RF signal and T.Error signal with small diffraction grid error.
- The T.Error level is small, and the envelope is as follows:
- Signal RF et signal T.Error avec une petite erreur de réseau de diffraction
- Le niveau T.ERROR est petit et l'enveloppe est comme suit :
- HF-Signal und T.-Fehlersignal mit kleinem Beugungsgitter-Fehler
- Der T.-Fehlerpegel ist klein und die Hüllkurve ist wie folgt:

(Photo. 2)
(Photo. 2)
(Foto. 2)



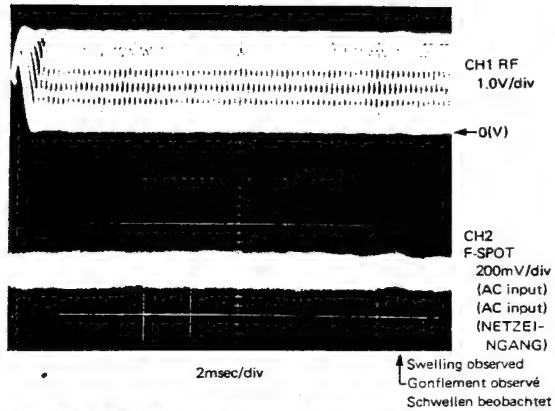
- RF signal and T.Error signal after completion of diffraction grid adjustment.
- Swelling is observed on the T.Error signal of approx. 18ms after the RF trigger point.
- Pay attention to the RF trigger point.
- Signal RF et signal T.ERROR après avoir terminé le réglage du réaeau de diffraction.
- Le gonflement est observé sur le signal T.ERROR d'environ 18ms après le point de déclenchement RF.
- Attention au point de déclenchement RF.
- HF-Signal und T.-Fehlersignal nach Beendigung der Beugungsgitter-Einstellung.
- Am T.-Fehlersignal wird etwa 18ms nach dem HF-Auslösepunkt Schwellen beobachtet.
- Auf den HF-Auslösepunkt achten.

(Photo. 3)
(Photo. 3)
(Foto. 3)



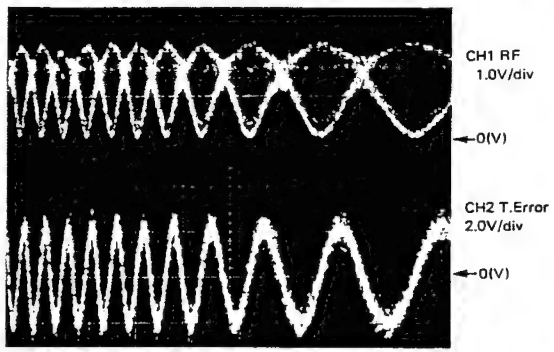
DP-1000

ADJUSTMENT/REGLAGE/ABGLEICH



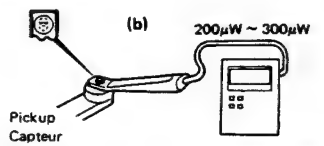
- When the diffraction grid position is correct, tracking servo is applied and RF signal is output.
- In the F spot, swelling is observed approx. 18ms after 18ms.
- Quand la position du réseau de diffraction est correcte, l'asservissement de mise au point est appliquée et le signal RF est mis en sortie.
- Dans le point F, le gonflement est observé environ 18ms après 18ms.
- Wenn die Position des Beugungsgitters korrekt ist, word der Spurhalte-Serve zugegeben und das HF-Signal ausgegeben.
- An der F-Stelle wird nach etwa 18ms Schwellen qeobachtet.

(Photo. 4)
(Photo. 4)
(Foto. 4)



- T. Error balance adjustment : Adjust so that the T.Error amplitude is symmetrical above and below 0(V).
- Réglage de la balance T.ERROR : Régler de manière à ce que l'amplitude T.ERROR soit symétrique au dessus et en dessous de 0(V).
- T.-Fehler balance-Einstellung: So einstellen, daß die T.-Fehleramplitude über und unter 0(V) symmetrisch ist.

(Photo. 5)
(Photo. 5)
(Foto. 5)



Optical power meter (b)
Compteur de puissance optique (b)
Optischer Leistungsmesser (b)

X29-1632-71

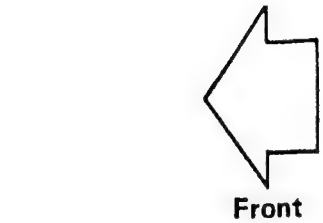
	B	C	E
Q1	–	4.9V	4.2V
Q4	–	–	4.9V
Q5	–	4.9V	–

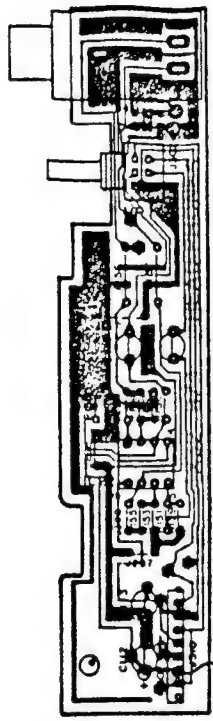
IC1

7	0V
12	0V
19	4.0V
21	4.0V
23	4.0V
24	4.0V

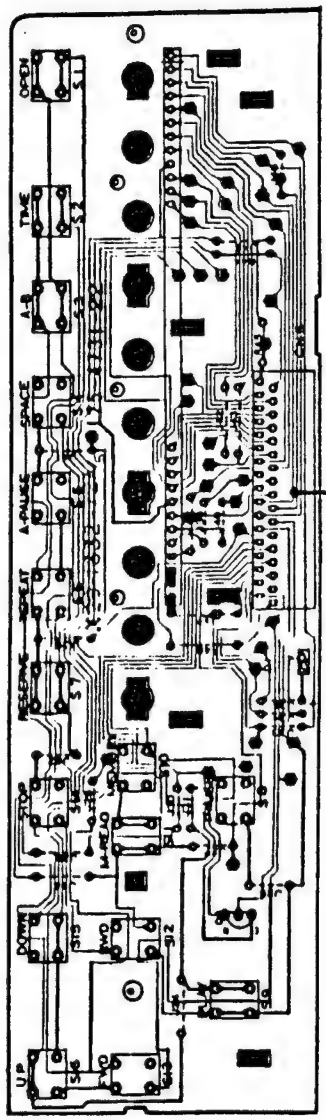
IC3

1	2.5V
2	–
3	1.6V
4	0V
5	1.4V
6	–
7	–
8	4.8V

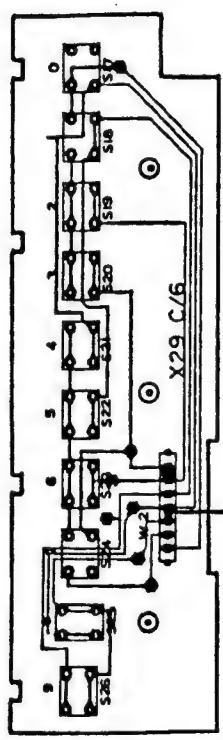




Foil side view

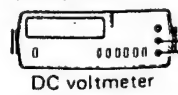


Component side view

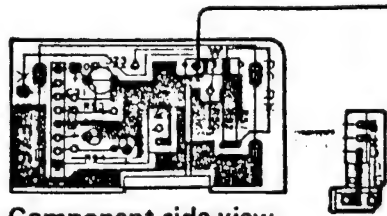


Component side view

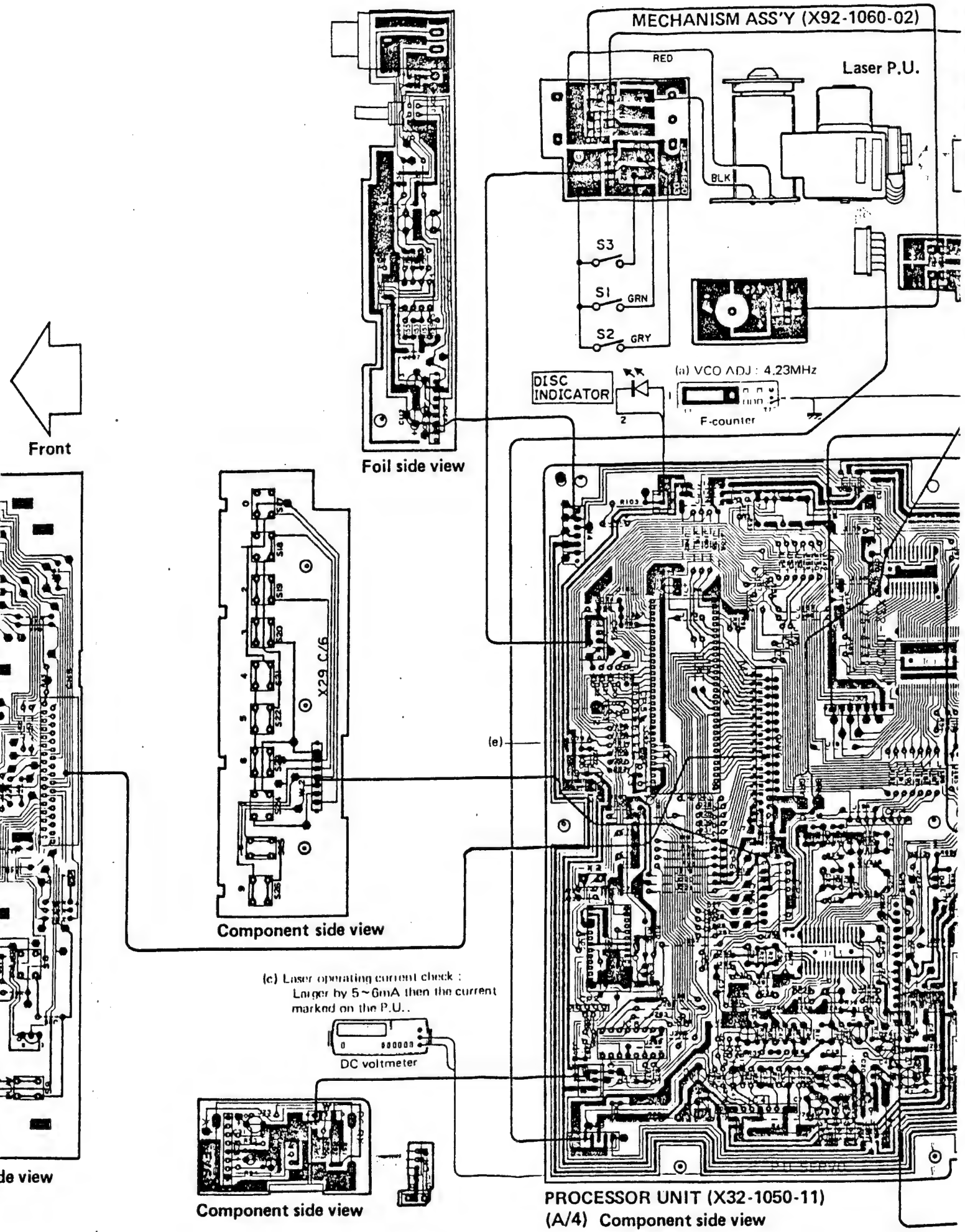
(c) Laser operating current check :
Larger by 5~6mA then the curren
markod on the P.U..

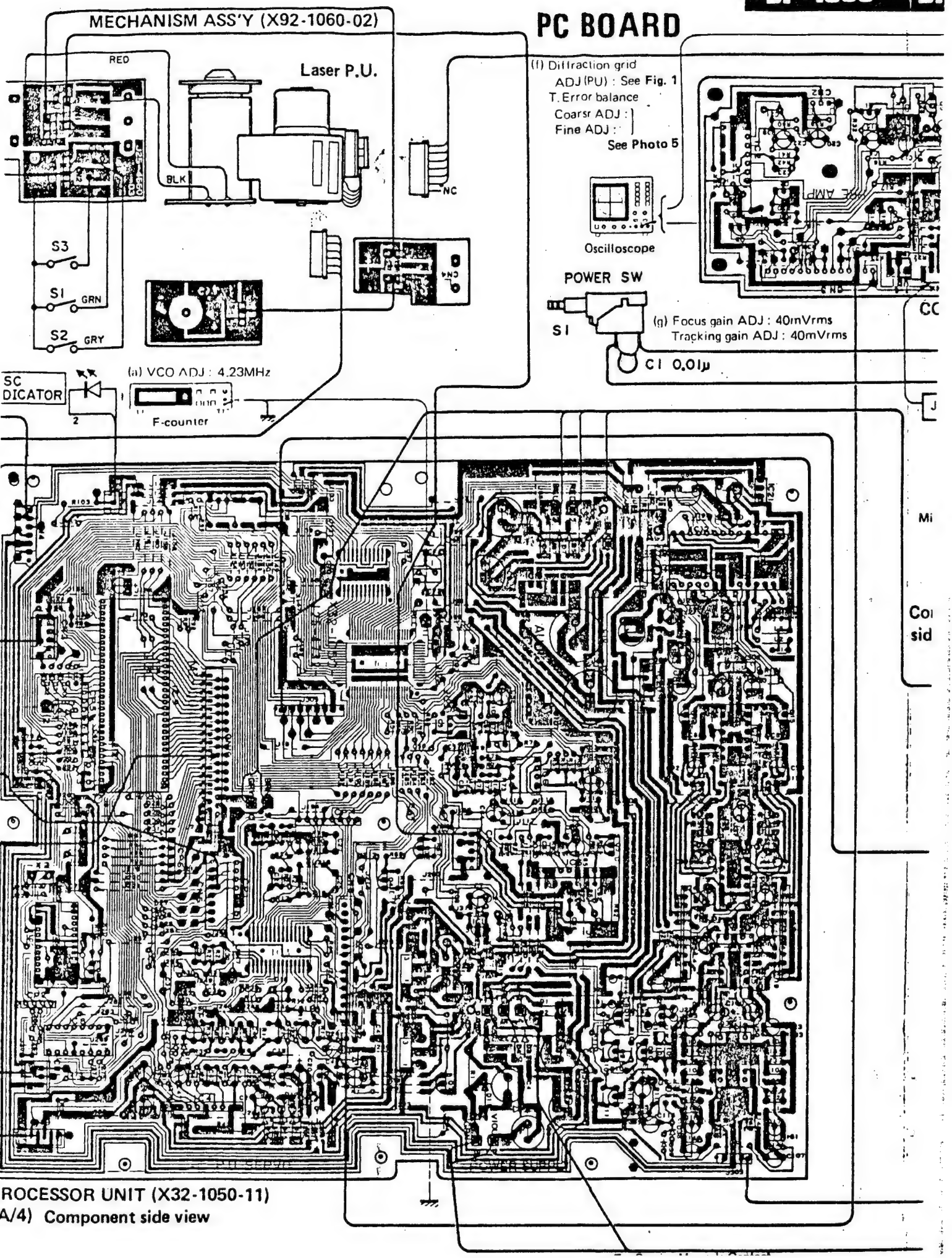


DC voltmeter



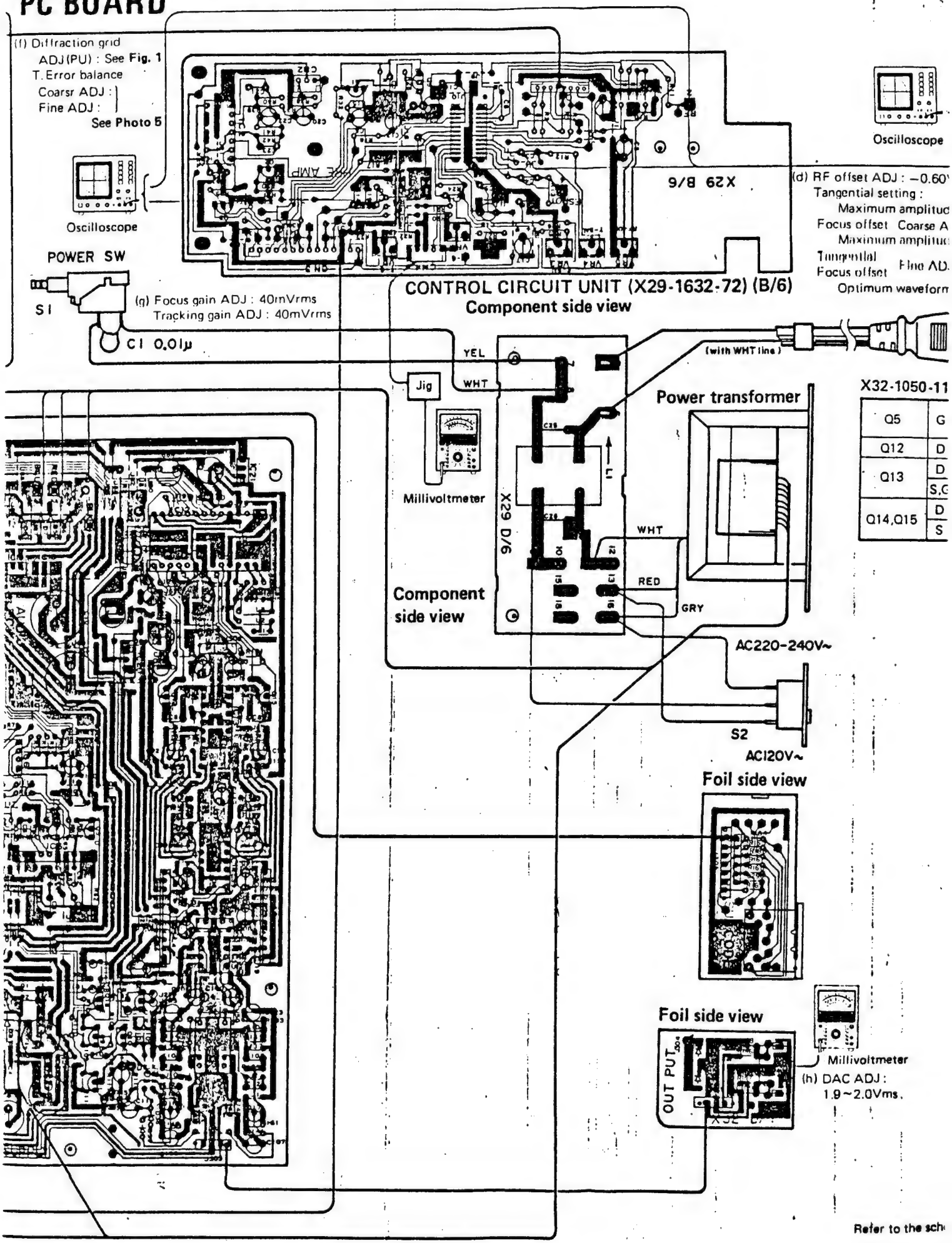
Component side view


MECHANISM ASS'Y (X92-1060-02)
RED
Laser P.U.
BLK
S3
S1
GRN
S2
GRY
DISC INDICATOR
(a) VCO ADJ : 4.23MHz
F-counter
Front
Foil side view
X29 C/6
Component side view
(e)
(c) Laser operating current check :
Larger by 5~6mA then the current
marked on the P.U..
DC voltmeter
Component side view
PROCESSOR UNIT (X32-1050-11)
(A/4) Component side view

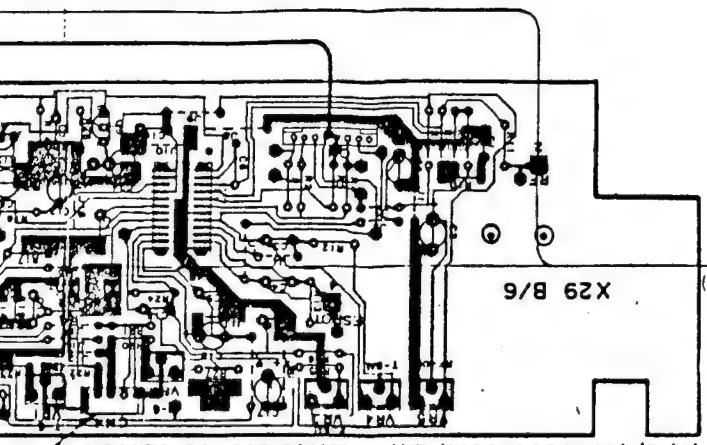


ROCESSOR UNIT (X32-1050-11)
A/4) Component side view

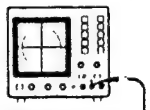
PC BOARD



Refer to the sch

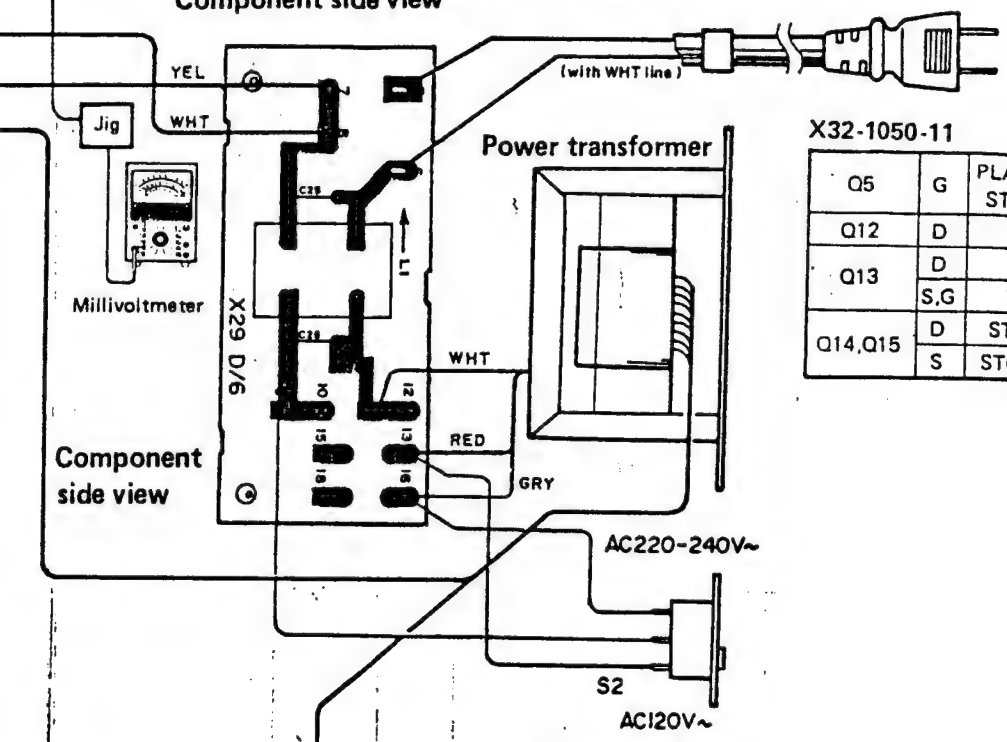


CONTROL CIRCUIT UNIT (X29-1632-72) (B/6)
Component side view



Oscilloscope

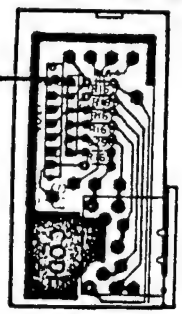
(d) RF offset ADJ : −0.60V
Tangential setting :
Maximum amplitude
Focus offset Coarse ADJ :
Maximum amplitude
Tangential Fine ADJ :
Focus offset
Optimum waveform



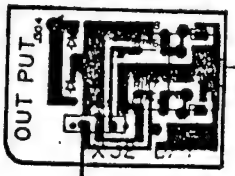
X32-1050-11

Q5	G	PLAY : −12.3V STOP : 14.9V
Q12	D	−12.1V
Q13	D	4.9V
	S,G	1.4V
Q14,Q15	D	STOP : 2.2V
	S	STOP : −2.8V

Foil side view



Foil side view

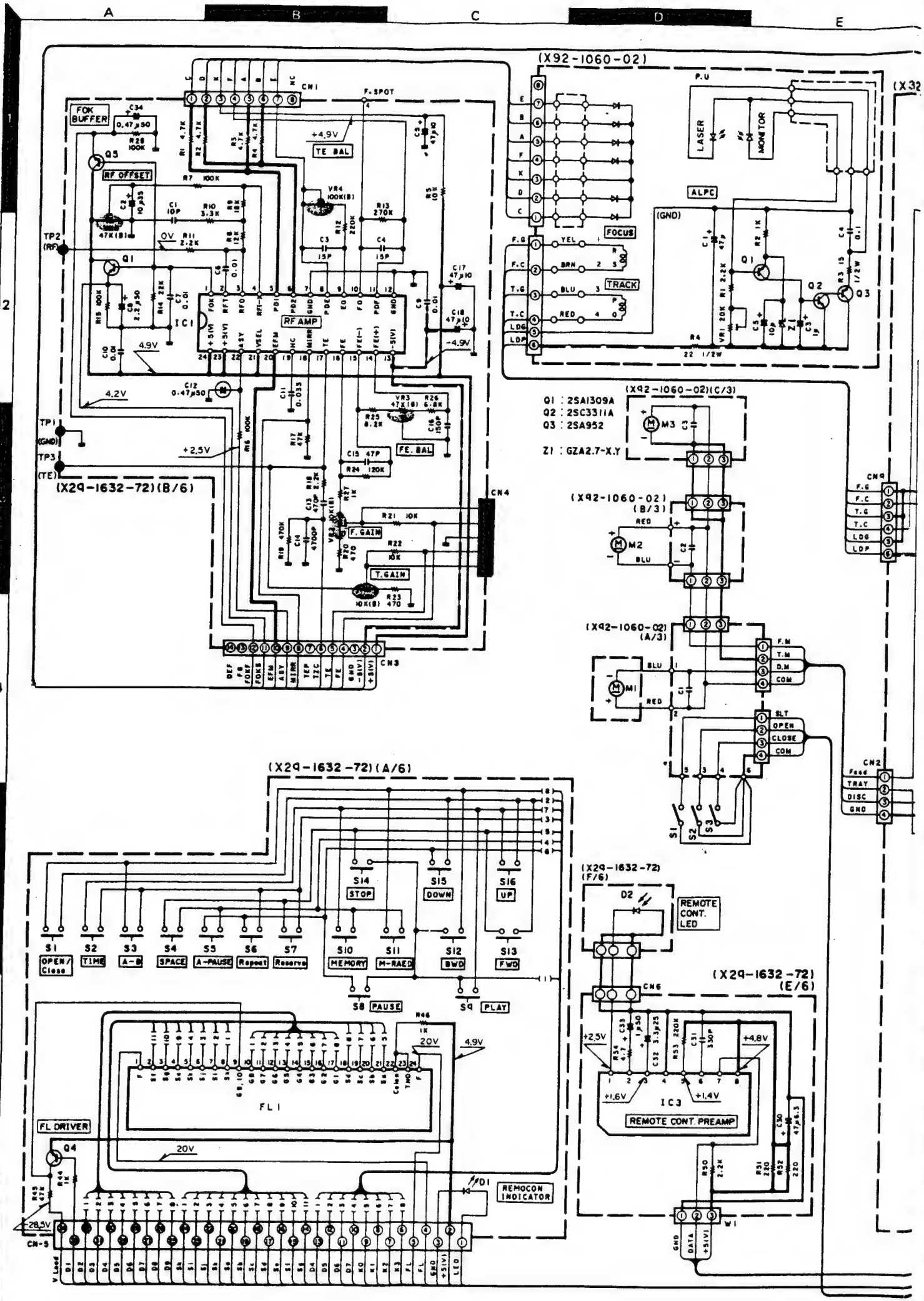


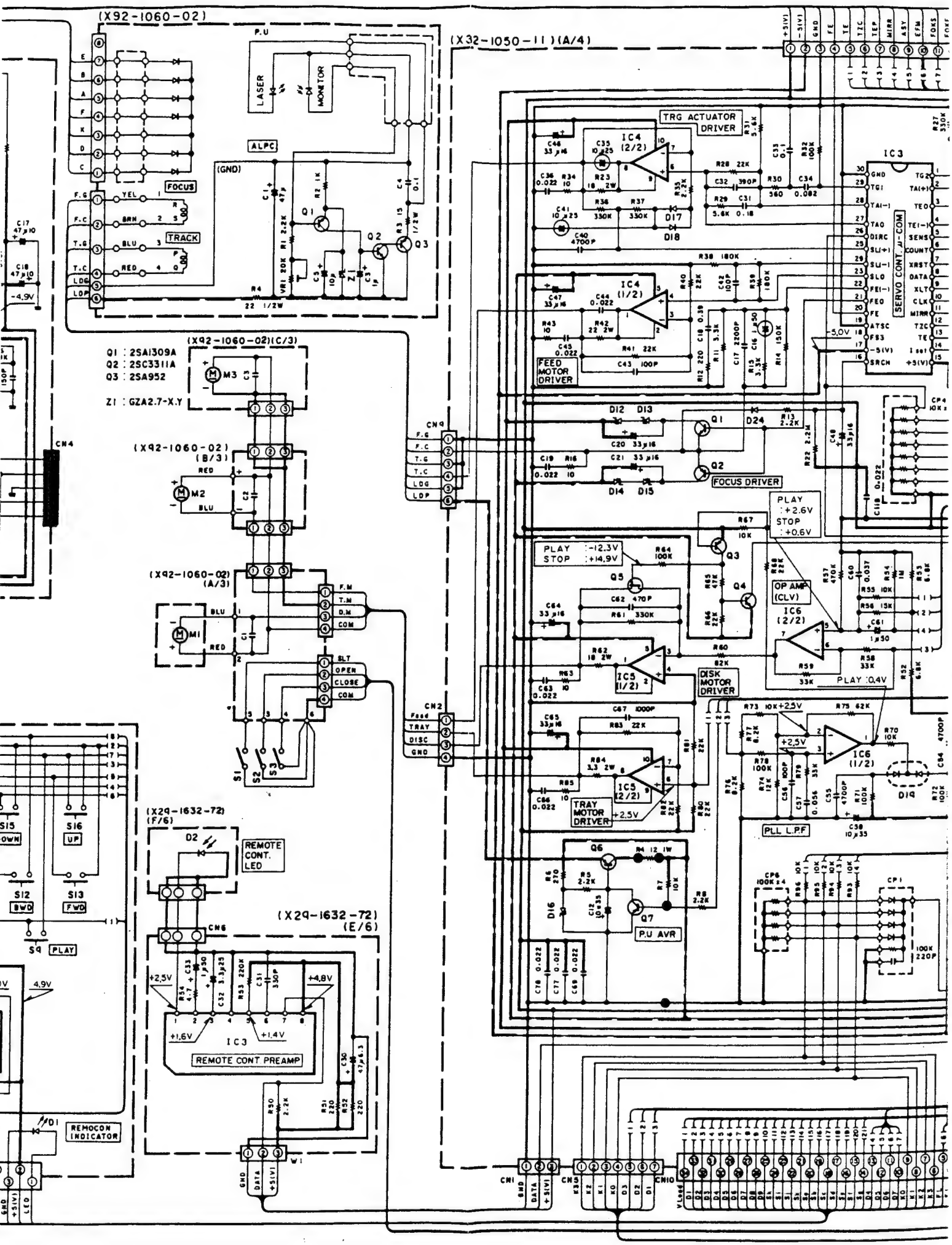
Millivoltmeter

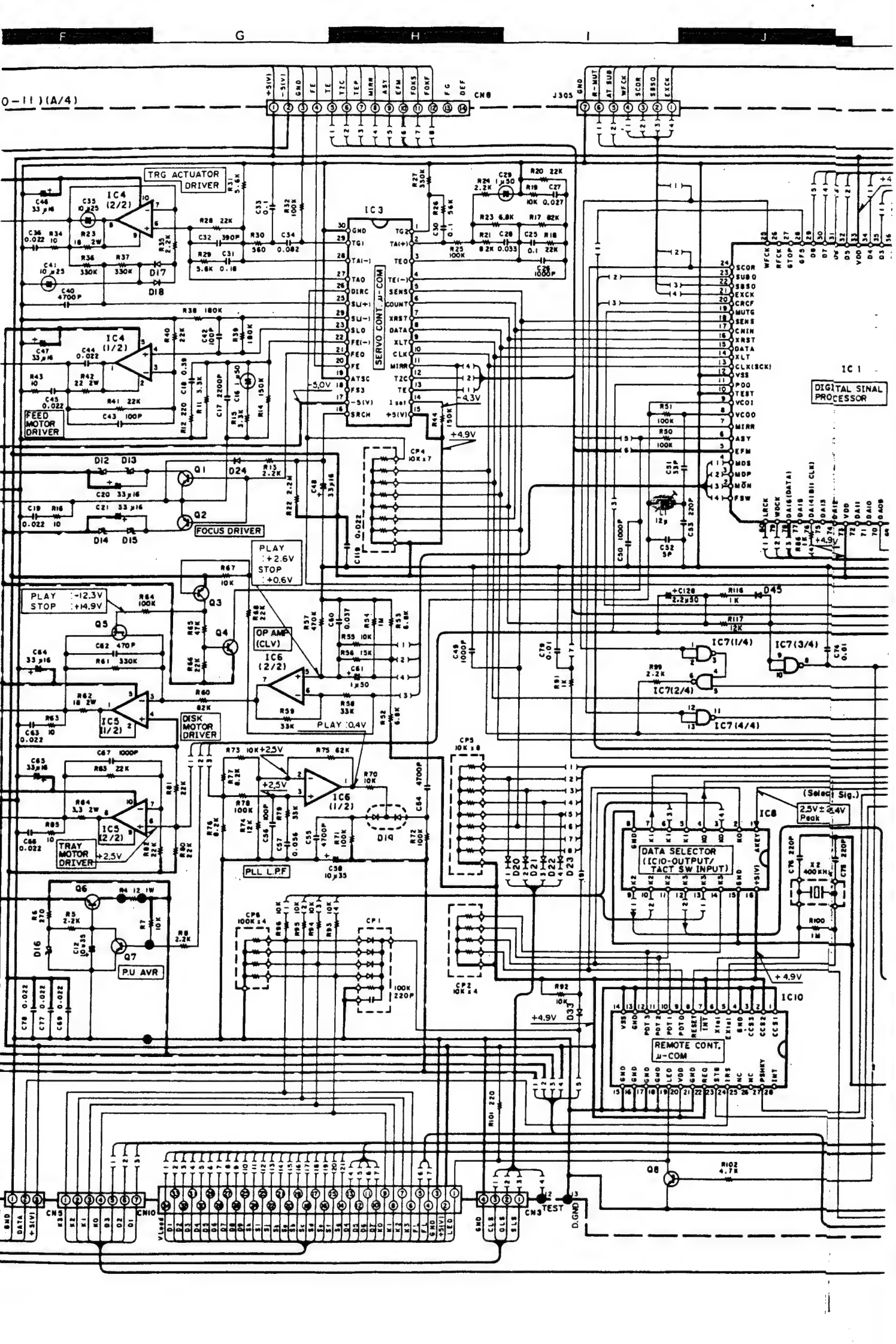
(h) DAC ADJ :
1.9~2.0Vms

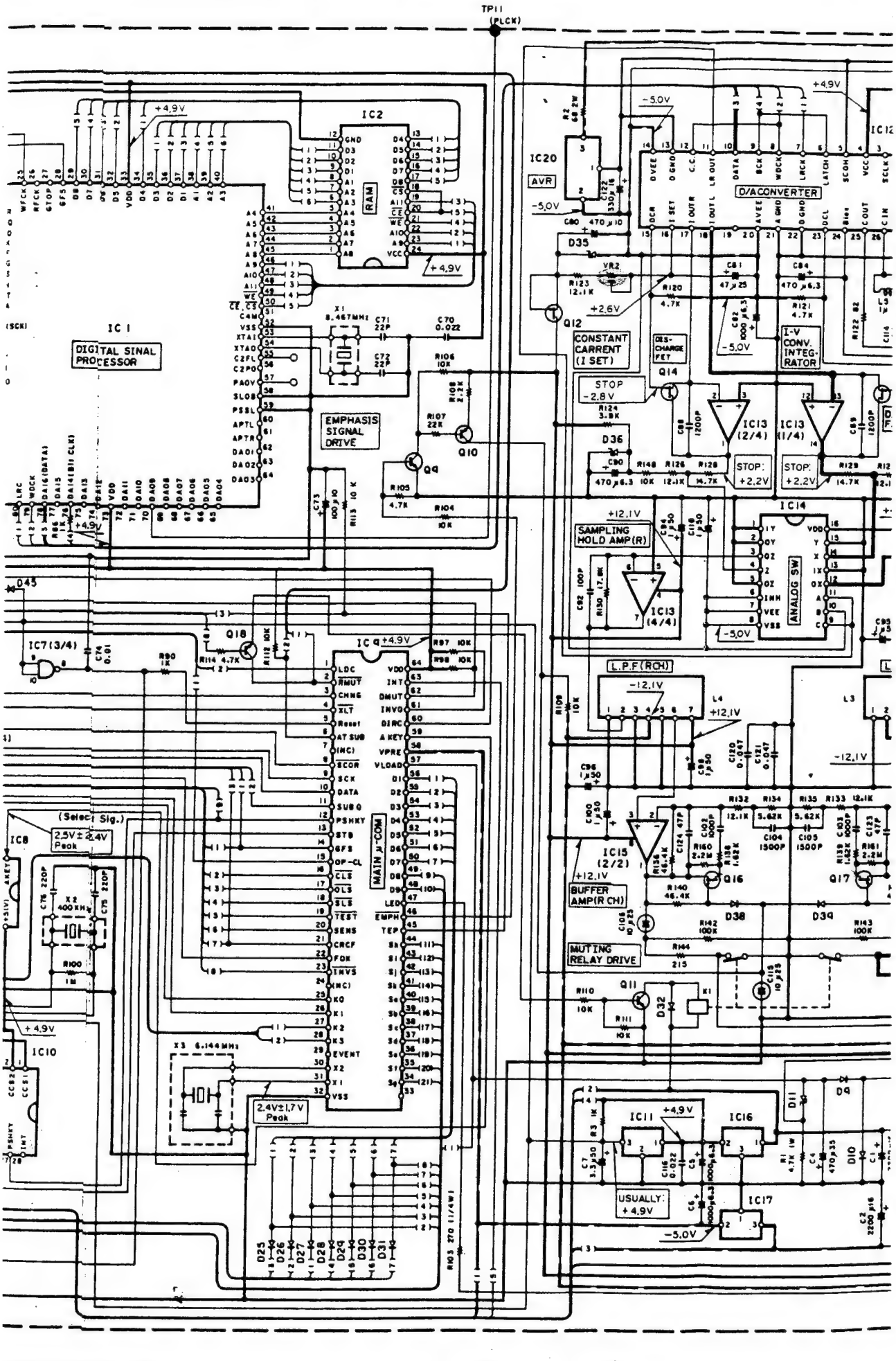
IC1	33	4.9V
	73	4.9V
IC2	24	4.9V
IC3	14	−4.3V
	15	4.9V
	17	−5.0V
IC5	6	2.5V
IC0	1	PLAY : 0.4V
	2	2.6V
	3	2.5V
	5	PLAY : 2.6V STOP : 0.6V
IC8	1	2.5V±2.4V Peak
	16	4.9V
IC9	64	4.9V
	58	−5.0V
IC11	1	4.9V
	2	0V
	3	4.9V
IC12	4	4.9V
	14	−5.0V
	20	−5.0V
IC13	1	STOP : 2.2V
	4	12.1V
	5	0V
	10	0V
	11	−12.1V
	14	STOP : 2.2V
IC14	8	−5.0V
	16	4.9V
IC15	4	−12.1V
	8	12.1V
IC16	1	−
	2	4.9V
	3	0V
IC17	1	0V
	2	−5.0V
	3	−
IC18	1	−
	2	12.1V
	3	0V
IC19	1	0V
	2	−12.1V
	3	−
IC20	1	0V
	2	−5.0V
IC21	1	12.1V
	2	4.9V
	3	0V
IC22	4	12.1V
	8	−12.1V

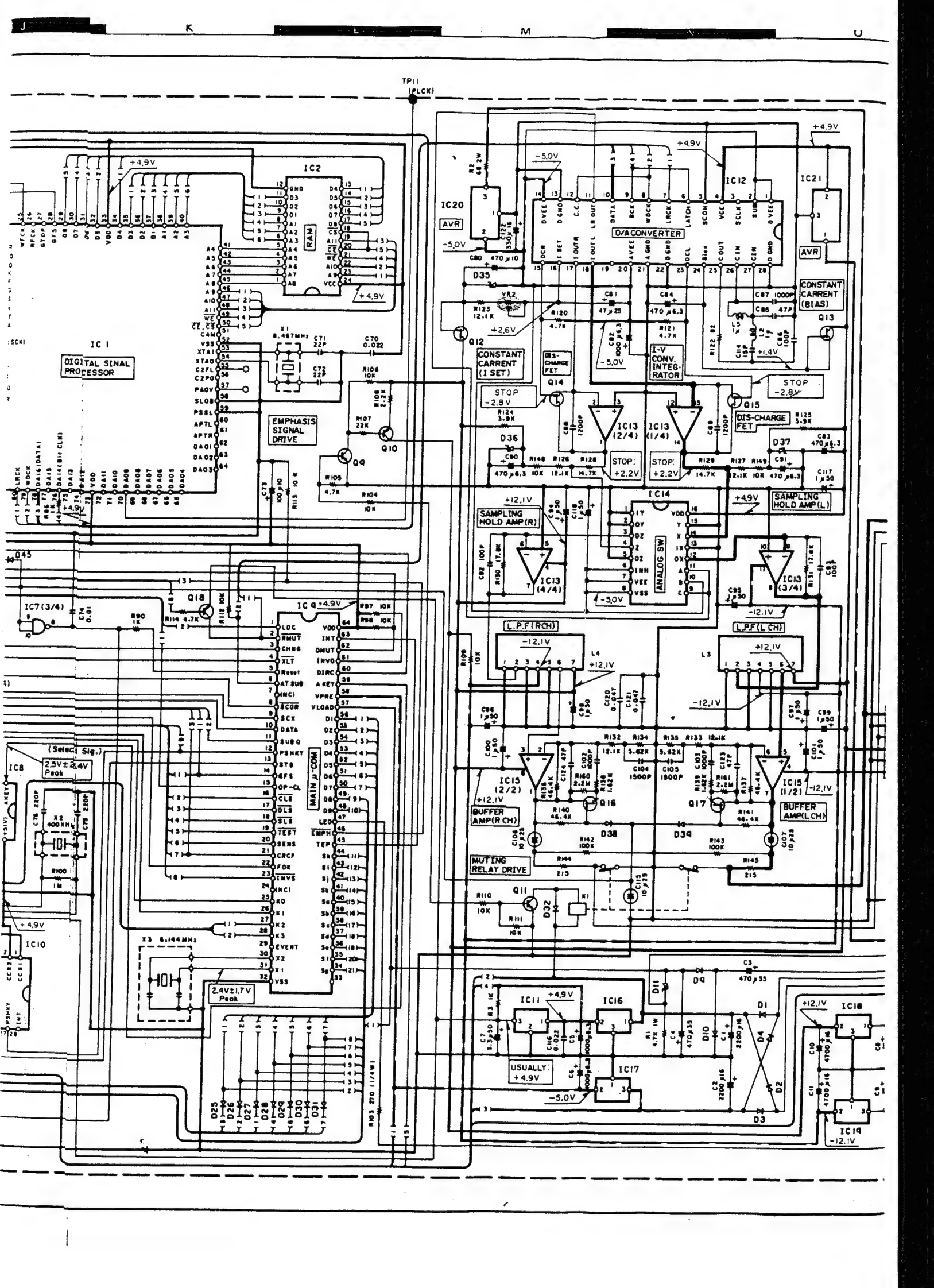
Refer to the schematic diagram for the values of resistors and capacitors.

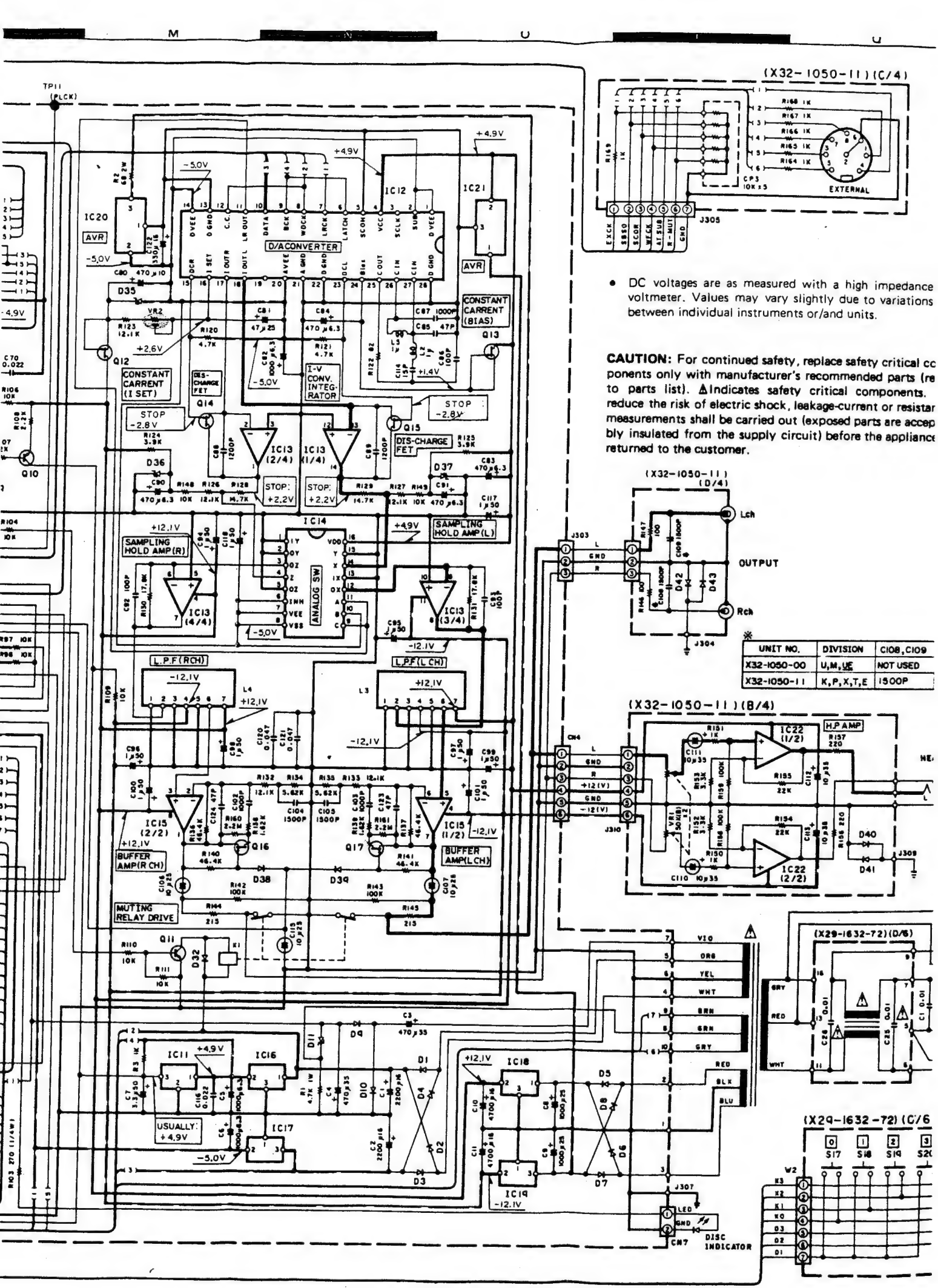

A
B
C
D
E
(X92-1060-02)
(X29-1632-72)(B/6)
(X92-1060-02)(C/3)
(X92-1060-02)(B/3)
(X92-1060-02)(A/3)
(X29-1632-72)(A/6)
(X29-1632-72)(F/6)
(X29-1632-72)(E/6)
Q1 : 2SA1309A
Q2 : 2SC3311A
Q3 : 2SA952
Z1 : GZA2.7-X.Y
CN1
CN2
CN3
CN4
CN5
CN6
CN9
IC1
IC3
FL1
RF AMP
FOK BUFFER
RF OFFSET
TE BAL
FE. BAL
F. GAIN
T. GAIN
FOCUS
TRACK
ALPC
LASER
MONITOR
P.U
FL DRIVER
REMOCON INDICATOR
REMOTE CONT. LED
REMOTE CONT. PREAMP
OPEN/ Close
TIME
A-B
SPACE
A-PAUSE
Repeat
Reserve
MEMORY
M-RAED
BWD
FWD
STOP
DOWN
UP
PAUSE
PLAY
TRAY
DISC
GND
+4,9V
-4,9V
4,2V
+2,5V
20V
4,9V
+1,6V
+1,4V
+4,8V
-28,5V


(X92-1060-02)
P.U
LASER
MONITOR
ALPC
(GND)
FOCUS
TRACK
(X32-1050-11)(A/4)
TRG ACTUATOR DRIVER
IC4 (2/2)
IC3
SERVO CONT.μ-COM
FEED MOTOR DRIVER
IC4 (1/2)
FOCUS DRIVER
PLAY :+2.6V
STOP :+0.6V
PLAY :-12.3V
STOP :+14.9V
OP AMP (CLV)
IC6 (2/2)
DISK MOTOR DRIVER
IC5 (1/2)
PLAY :0.4V
TRAY MOTOR DRIVER
IC5 (2/2)
IC6 (1/2)
PLL L.PF
P.U AVR
(X92-1060-02)(C/3)
Q1 : 2SA1309A
Q2 : 2SC3311A
Q3 : 2SA952
Z1 : GZA2.7-X.Y
(X92-1060-02) (B/3)
(X92-1060-02) (A/3)
(X29-1632-72) (F/6)
REMOTE CONT. LED
(X29-1632-72) (E/6)
REMOTE CONT PREAMP
REMOCON INDICATOR
CN1
CN2
CN3
CN4
CN6
CN9
CN10
S1
S2
S3
S9 PLAY
S12 BWD
S13 FWD
S15 DOWN
S16 UP


F
G
H
I
J
TRG ACTUATOR DRIVER
FEED MOTOR DRIVER
FOCUS DRIVER
DISK MOTOR DRIVER
TRAY MOTOR DRIVER
P.U AVR
PLL L.P.F
OP AMP (CLV)
SERVO CONT. μ-COM
DIGITAL SINAL PROCESSOR
DATA SELECTOR (IC10-OUTPUT/ TACT SW INPUT)
REMOTE CONT. μ-COM
PLAY :+2.6V STOP :+0.6V
PLAY :-12.3V STOP :+14.9V
PLAY :0.4V
(Select Sig.)
2.5V±2.4V Peak
CN8
J305
CN9
CN10
CN3
TEST
D.GND


TP11 (PLCK)
IC1
DIGITAL SINAL PROCESSOR
IC2
RAM
IC20
AVR
D/ACONVERTER
+4.9V
-5.0V
+2.6V
CONSTANT CARRENT (I SET)
DES-CHARGE FET
I-V CONV. INTEG-RATOR
STOP -2.8V
STOP: +2.2V
EMPHASIS SIGNAL DRIVE
SAMPLING HOLD AMP(R)
ANALOG SW
L.P.F(RCH)
BUFFER AMP(R CH)
MUTING RELAY DRIVE
MAIN μ-COM
(Select Sig.)
2.5V± 2.4V Peak
2.4V±1.7V Peak
X1 8.467MHz
X2 400 KHz
X3 6.144MHz
USUALLY: +4.9V
IC7(3/4)
IC8
IC10
IC11
IC12
IC13 (1/4)
IC13 (2/4)
IC13 (4/4)
IC14
IC15 (2/2)
IC16
IC17
Q9
Q10
Q11
Q12
Q14
Q16
Q17
Q18
D35
D36
D38
D39
D45


IC1
DIGITAL SINAL PROCESSOR
IC2
RAM
IC20
AVR
D/A CONVERTER
IC12
IC21
CONSTANT CARRENT (BIAS)
CONSTANT CARRENT (I SET)
I-V CONV. INTEGRATOR
DIS-CHARGE FET
EMPHASIS SIGNAL DRIVE
SAMPLING HOLD AMP(R)
SAMPLING HOLD AMP(L)
ANALOG SW
L.P.F(RCH)
L.P.F(LCH)
BUFFER AMP(R CH)
BUFFER AMP(L CH)
MUTING RELAY DRIVE
MAIN μ-COM
USUALLY: +4.9V
TP11 (PLCK)
+4.9V
-5.0V
+2.6V
+1.4V
+12.1V
-12.1V
STOP -2.8V
STOP: +2.2V
2.5V±2.4V Peak
2.4V±1.7V Peak

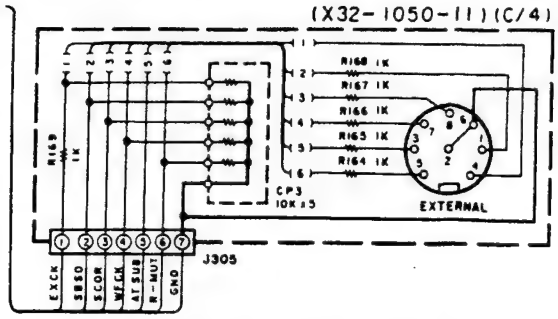


- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

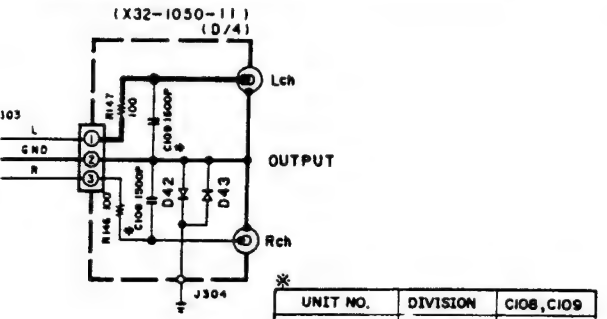
※

UNIT NO.	DIVISION	C108, C109
X32-1050-00	U, M, UE	NOT USED
X32-1050-11	K, P, X, T, E	1500P



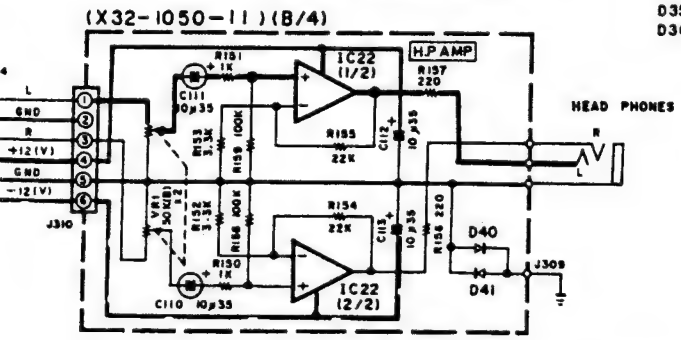
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

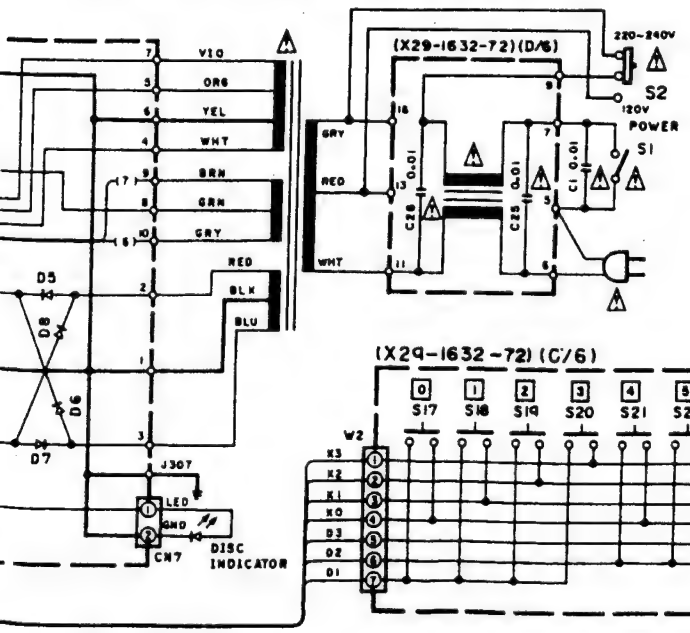
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



※

UNIT NO.	DIVISION	C108,C109
X32-1050-00	U,M,UE	NOT USED
X32-1050-11	K,P,X,T,E	1500P





(X29-1632-72)
IC1 : CX-20109
IC3 : CX-20106A

Q1,4,5 : 2SC1815(Y,GR), 2SC945(A)(Q,P), 2SC2320(E,F) or 2SC1685(R,S)

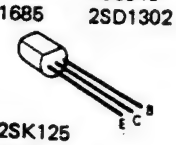
D1 : B30-0431-05
D2 : PH302C

(X32-1050-11)
IC1 : CX23035
IC2 : CXK5816M, HM6116FP-4 or MB8416-20LPF
IC3 : CX20108
IC4,5 : TA7256P
IC6 : NJM4558D or AN6556
IC7 : TC40H000P
IC8 : TC40H157P
IC9 : μPD7516HCW-230
IC10 : LM6416E-504
IC11 : PST518B
IC12 : CX20152
IC13 : TL084CN
IC14 : μPD4053BC
IC15 : NJM4560D or NJM4560D-N
IC16 : AN7805F
IC17,20 : AN7905F
IC18 : μPC78L12
IC19 : AN7912F
IC21 : μPC78L05
IC22 : M5218P

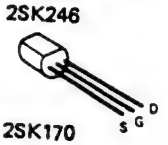
Q1 : 2SC3246
Q2,6 : 2SA1286
Q3,7,10 : 2SA1015(Y,GR), 2SA733(A)(Q,P) or 2SA1127NC(R,S)
Q4,8,9,18 : 2SC1815(Y,GR), 2SC945(A)(Q,P) or 2SC1685(R,S)
Q5,16,17 : 2SK246(Y,GR)
Q11 : 2SD1302(S)
Q12 : 2SK246(BL)
Q13 : 2SK170(BL)
Q14,15 : 2SK125(3,4)

D1~10 : DSM1A1
D11 : RD6.2E(B)
D12~15 : RD3.6F(B)
D16 : RD10E(B)
D17,18,20~23,25~27,33,38~43,45 : 1SS176 or 1SS133
D19 : 1SV147
D35 : RD7.5JS(B)
D36,37 : RD5.1JS(B2)

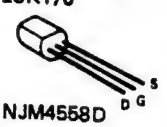
2SA1015 2SC1815
2SA1127NC 2SC2320
2SA1286 2SC3246
2SA733 2SC945
2SC1685 2SD1302



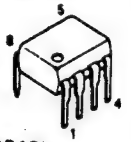
2SK125
2SK246



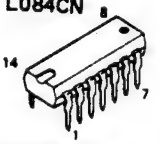
2SK170



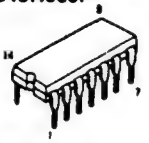
NJM4558D
NJM4560D
NJM4560D-N



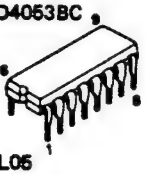
TL084CN



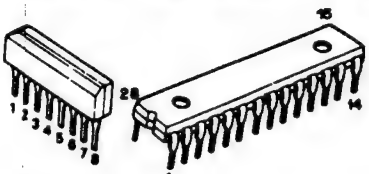
TC40H000P



TC40H157P
μPD4053BC

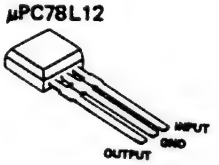


CX20106A LM6416E-504

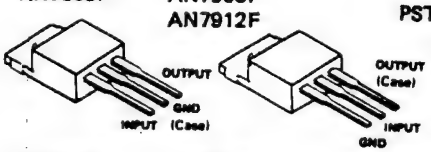


AN6556
M5218P

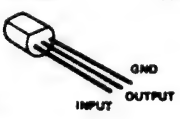
μPC78L05
μPC78L12



AN7805F
AN7905F
AN7912F

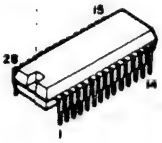


PST518B

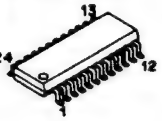


TA7256P

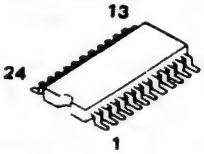
CX20152



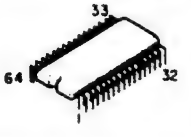
CX-20109
CXK5816M
MB8416-20LPF



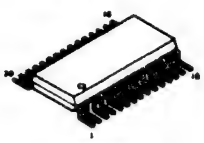
HM6116FP-4



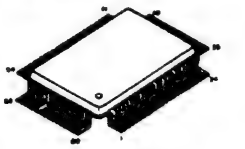
μPD7516HCW-230



CX20108



CX23035

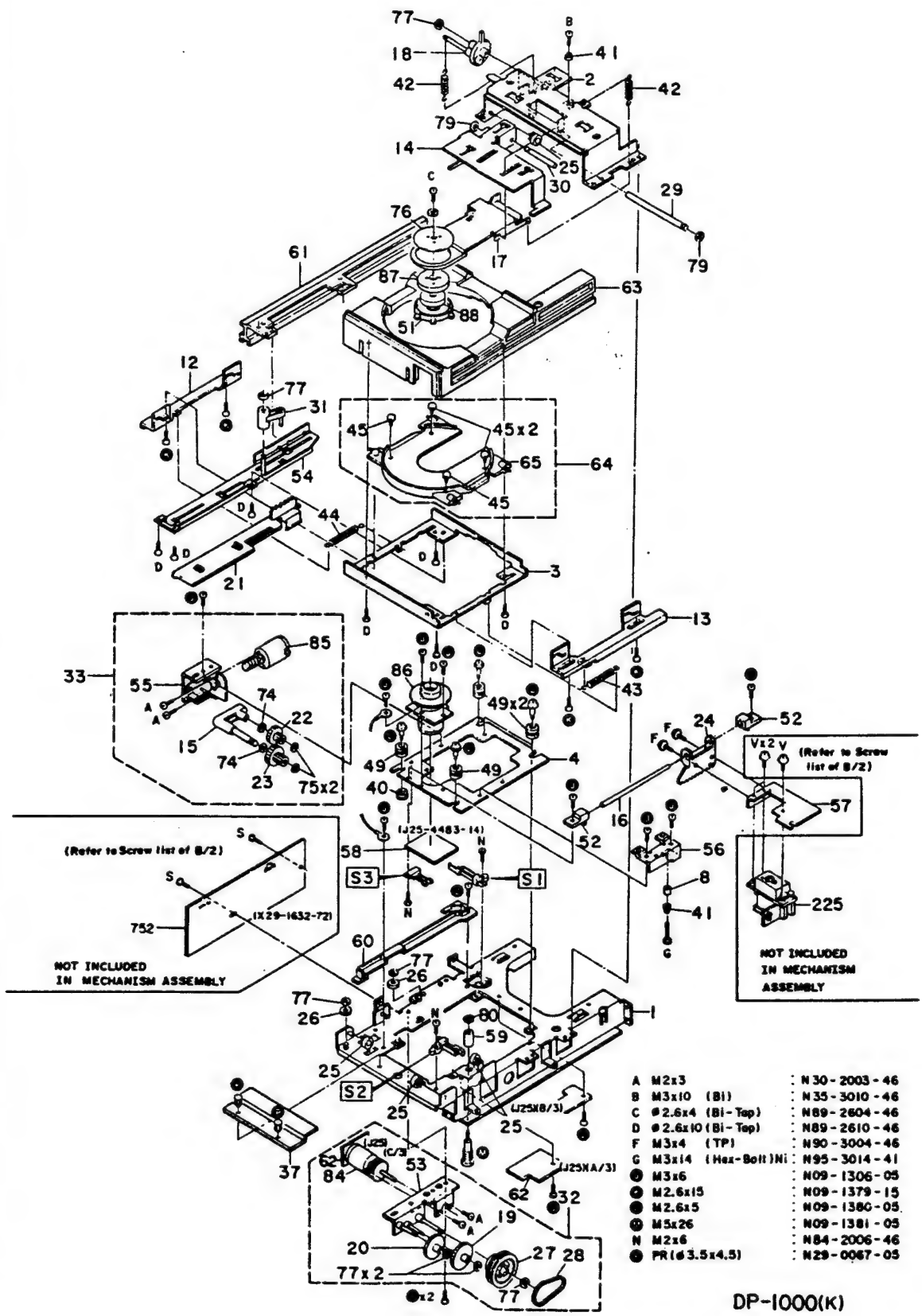


DP-1000

KENWOOD

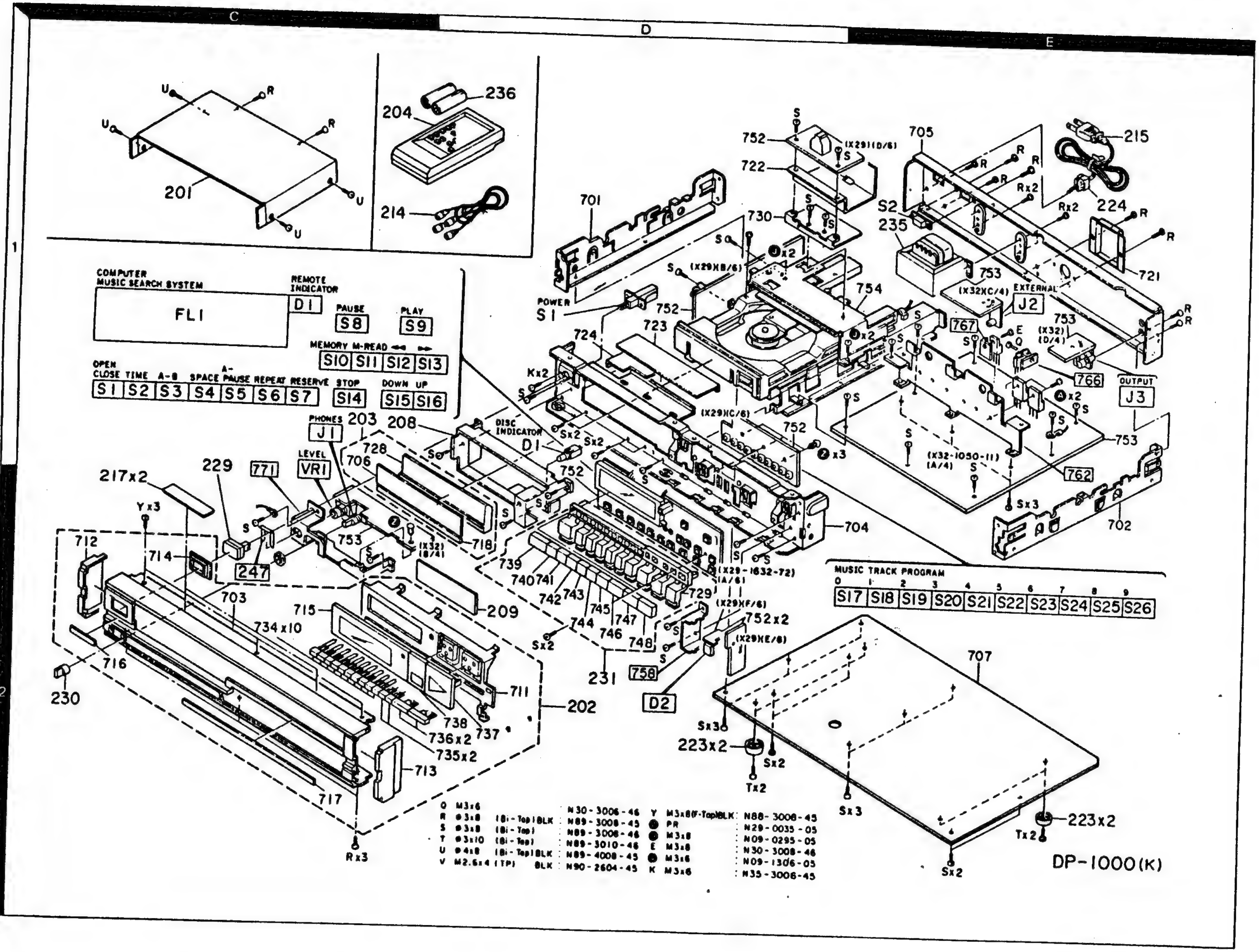
DP-1000(K)

EXPLODED VIEW(MECHANISM)



Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (UNIT)



O	M3x6		N30-3006-46	Y	M3x8(F-Top)BLK	N88-3008-45
R	⊕3x8	(Bi-Top)BLK	N89-3008-45	①	PR	N29-0035-05
S	⊕3x8	(Bi-Top)	N89-3008-46	②	M3x8	N09-0295-05
T	⊕3x10	(Bi-Top)	N89-3010-46	E	M3x8	N30-3008-46
U	⊕4x8	(Bi-Top)BLK	N89-4008-45	③	M3x6	N09-1306-05
V	M2.6x4 (TP)	BLK	N90-2604-45	K	M3x6	N35-3006-45

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

	Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
	224	1E		J42-0083-05	POWER CORD BUSHING		
	225	3B	*	J91-0295-05	PICKUP		
	-			J61-0307-05	WIRE BAND		
	229	1C		K27-1082-04	KNOB (BUTTON) POWER		
	230	2C		K29-2201-04	KNOB (BUTTON) LEVEL		
	231	2D	*	K29-2209-03	KNOB ASSY		
Δ	235	1E	*	L01-6831-05	POWER TRANSFORMER	KP	
Δ	235	1E	*	L01-6834-05	POWER TRANSFORMER	UMUEXT	
Δ	235	1E	*	L01-6834-05	POWER TRANSFORMER	E	
	J	1D,1E		N09-1306-05	TAPPING SCREW (3X6)		
	Z	1E		N29-0035-05	PUSH RIVET (3.5X5.5)		
Δ	S1	1D		S40-1066-05	PUSH SWITCH (POWER TYPE)		
Δ	S2	1E		S31-2083-05	SLIDE SWITCH (POWER TYPE)	UMUEXT	
Δ	S2	1E		S31-2083-05	SLIDE SWITCH (POWER TYPE)	E	
	236	1D		W09-0022-05	BATTERY		
	CONTROL CIRCUIT UNIT(X29-1632-72)						
	D1	1C		B30-0431-05	LED(LN21CPH) REMOTE INDICATOR		
	C1			CC45FSL1H100D	CERAMIC 10PF D		
	C2			CE04KW1V100M	ELECTRO 10UF 35WV		
	C3 ,4			CC45FSL1H150J	CERAMIC 15PF J		
	C5			CE04KW1A470M	ELECTRO 47UF 10WV		
	C6			C91-0769-05	CERAMIC 0.01UF M		
	C7			CK45FF1H103Z	CERAMIC 0.010UF Z		
	C8			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
	C9 ,10			CK45FF1H103Z	CERAMIC 0.010UF Z		
	C11			CF92FV1H333J	MF 0.033UF J		
	C12			C90-1331-05	ALMINIUM ELECTROLYTIC C.		
	C13			CK45FB1H471K	CERAMIC 470PF K		
	C14			CF92FV1H472J	MF 4700PF J		
	C15			CC45FSL1H470J	CERAMIC 47PF J		
	C16			CC45FSL1H151J	CERAMIC 150PF J		
	C17 ,18			CE04KW1A470M	ELECTRO 47UF 10WV		
Δ	C25 ,26			C91-0647-05	CERAMIC 0.01UF P		
	C30		*	CE04JW0J470M	ELECTRO 47UF 6.3WV		
	C31			C91-0751-05	CERAMIC 330PF K		
	C32		*	CE04JW1E3R3M	ELECTRO 3.3UF 25WV		
	C33			CE04JW1H010M	ELECTRO 1.0UF 50WV		
	C34			CE04DW1HR47M	ELECTRO 0.47UF 50WV		
	L1			L79-0702-05	LINE FILTER		
	VR1 ,2			R12-3100-05	TRIMMING POT(10K)F.GAIN,T.GAIN		
	VR3			R12-3103-05	TRIMMING POT.(47K) FE BAL		
	VR4		*	R12-5048-05	TRIMMING POT.(100K)TE BAL		
	VR5			R12-3103-05	TRIMMING POT.(47K) RF OFFSET		
	S1 -26	1C,2E		S40-1064-05	PUSH SWITCH		
	D2		*	PH302C	PHOTO DIODE		
	FL1		*	CP2162GR	FLUORESCENT INDICATOR TUBE		
	IC1			CX-20109	IC(RF AMP FOR 3-BEAM PICK-UP)		
	IC3		*	CX20106A	IC(REMOTE CONTROLLER PREAMP)		
	Q1			2SC1685(R,S)	TRANSISTOR		

E: Scandinavia & Europe H:Audio Club K: USA P: Canada
T: England U: PX(Far East, Hawaii)
UE: AAFES(Europe) X: Australia M: Other Areas

Δ indicates safety critical components.

PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
Q1			2SC1815(Y,GR)	TRANSISTOR		
Q1			2SC2320(E,F)	TRANSISTOR		
Q1			2SC945(A)(Q,P)	TRANSISTOR		
Q4 ,5			2SC1685(R,S)	TRANSISTOR		
Q4 ,5			2SC1815(Y,GR)	TRANSISTOR		
Q4 ,5			2SC2320(E,F)	TRANSISTOR		
Q4 ,5			2SC945(A)(Q,P)	TRANSISTOR		
PROCESSOR UNIT(X32-1050-11)						
C1 ,2			CE04KW1C222M	ELECTRO 2200UF 16WV		
C3 ,4			CE04KW1V471M	ELECTRO 470UF 35WV		
C5 ,6			CE04KW0J102M	ELECTRO 1000UF 6.3WV		
C7			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C8 ,9			CE04KW1E102M	ELECTRO 1000UF 25WV		
C10 ,11		*	CE04KW1C472M	ELECTRO 4700UF 16WV		
C12			CE04KW1V100M	ELECTRO 10UF 35WV		
C16		*	C90-1349-05	ALMINIUM ELECTROLYTIC C.		
C17			CF92FV1H222J	MF 2200PF J		
C18			CF92FV1H394J	MF 0.39UF J		
C19			C91-0085-05	CERAMIC 0.022UF N		
C20 ,21			CE04KW1C330M	ELECTRO 33UF 16WV		
C25			CF92FV1H104J	MF 0.10UF J		
C26			CF92FV1H102J	MF 1000PF J		
C27			CF92FV1H273J	MF 0.027UF J		
C28			CF92FV1H333J	MF 0.033UF J		
C29		*	C90-1349-05	ALMINIUM ELECTROLYTIC C.		
C30			CF92FV1H104J	MF 0.10UF J		
C31			CF92FV1H184J	MF 0.18UF J		
C32			CK45FB1H391K	CERAMIC 390PF K		
C33			CF92FV1H104J	MF 0.10UF J		
C34			CF92FV1H823J	MF 0.082UF J		
C35			C90-1332-05	ELECTRO 10UF 25WV		
C36			C91-0085-05	CERAMIC 0.022UF N		
C40			CF92FV1H472J	MF 4700PF J		
C41			C90-1332-05	ELECTRO 10UF 25WV		
C42 ,43			CC45FSL1H101J	CERAMIC 100PF J		
C44 ,45			CK45FF1H223Z	CERAMIC 0.022UF Z		
C46 -48			CE04KW1C330M	ELECTRO 33UF 16WV		
C49 ,50			C91-0757-05	CERAMIC 0.001UF K		
C51		*	CC45FUJ1H330J	CERAMIC 33PF J		
C52		*	CC45FUJ1H050C	CERAMIC 5.0PF C		
C53		*	CC45FUJ1H221J	CERAMIC 220PF J		
C54 ,55			C91-0765-05	CERAMIC 0.0047UF M		
C56			CC45FSL1H101J	CERAMIC 100PF J		
C57			CF92FV1H563J	MF 0.056UF J		
C58			CE04KW1V100M	ELECTRO 10UF 35WV		
C60			CF92FV1H393J	MF 0.039UF J		
C61			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C62			C91-0753-05	CERAMIC 470PF K		
C63			CK45FF1H223Z	CERAMIC 0.022UF Z		
C64 ,65			CE04KW1C330M	ELECTRO 33UF 16WV		
C66			CK45FF1H223Z	CERAMIC 0.022UF Z		
C67			CK45FB1H102K	CERAMIC 1000PF K		
C69 ,70			CK45FF1H223Z	CERAMIC 0.022UF Z		
C71 ,72			CC45FCH1H220J	CERAMIC 22PF J		

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C73			CE04KW1A101M	ELECTR0 100UF 10WV		
C74			C91-0769-05	CERAMIC 0.01UF M		
C75 ,76			CC45FSL1H221J	CERAMIC 220PF J		
C77 ,78			CK45FF1H223Z	CERAMIC 0.022UF Z		
C79			C91-0769-05	CERAMIC 0.01UF M		
C80			CE04KW1A471M	ELECTR0 470UF 10WV		
C81			CE04KW1E470M	ELECTR0 47UF 25WV		
C82			CE04KW0J102M	ELECTR0 1000UF 6.3WV		
C83 ,84			CE04KW0J471M	ELECTR0 470UF 6.3WV		
C85			C91-0737-05	CERAMIC 47PF J		
C86			C91-0745-05	CERAMIC 100PF K		
C87			C91-0757-05	CERAMIC 0.001UF K		
C88 ,89		*	CQ93HP2A122J	MYLAR 1200PF J		
C90 ,91			CE04KW0J471M	ELECTR0 470UF 6.3WV		
C92 ,93			CQ09FS1H101JZS	P0LYSTY 100PF J		
C94 -101			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C102,103		*	CQ93HP2A102J	MYLAR 1000PF J		
C104,105			CQ93HP2A152J	MYLAR 1500PF J		
C106,107			C90-1332-05	ELECTR0 10UF 25WV		
C108,109			CF92FV1H152J	MF 1500PF J	KPXTE	
C110,111			C90-1332-05	ELECTR0 10UF 25WV		
C112,113			CE04KW1V100M	ELECTR0 10UF 35WV		
C114			C91-0725-05	CERAMIC 15PF J		
C115			C90-1332-05	ELECTR0 10UF 25WV		
C116			CK45FF1H223Z	CERAMIC 0.022UF Z		
C117,118			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C119			CK45FF1H223Z	CERAMIC 0.022UF Z		
C120,121			CK45FF1H473Z	CERAMIC 0.047UF Z		
C122			CE04KW1C331M	ELECTR0 330UF 16WV		
C123,124			C91-0174-05	P0LYSTY 47PF K		
C128			CE04KW1H2R2M	ELECTR0 2.2UF 50WV		
J1	1C		E11-0104-15	PH0NE JACK (3P)		
J2	1E		E06-0806-05	CYLINDRICAL RECEPTACLE		
J3	1E		E13-0226-05	PH0N0 JACK (2P) 0UTPUT		
247	2C		J21-3326-05	JACK M0UNTING HARDWARE		
L1			L32-0328-05	0SCILATING C0IL		
L2			L40-1092-14	SMALL FIXED INDUCT0R(1.0UH,M)		
L3 ,4			L79-0715-05	ACTIVE FILTER		
X1			L78-0211-05	RES0NAT0R (8.4672MHZ)		
X2			L78-0202-05	RES0NAT0R (400KHZ)		
X3			L78-0212-05	RES0NAT0R (6.1447MHZ)		
A	1E		N09-0295-05	HEXAG0N HEAD B0LT(M3X8,+)		
Z	2C		N29-0035-05	PUSH RIVET (3.5X5.5)		
CP1		*	R90-0466-05	C0MP0SITE ELEMENTS		
CP2			R90-0233-05	MULTI-C0MP 10KX4 J 1/6W		
CP3			R90-0228-05	MULTI-C0MP 10KX5 J 1/6W		
CP4			R90-0234-05	MULTI-C0MP 10KX7 J 1/6W		
CP5			R90-0229-05	MULTI-C0MP 10KX8 J 1/6W		
CP6			R90-0291-05	MULTI-C0MP 100KX4 J 1/6W		
R1		*	RS14DB3A472J	FL-PR00F RS 4.7K J 1W		
R2			RS14KB3D680J	FL-PR00F RS 68 J 2W		
R4			RS14DB3A120J	FL-PR00F RS 12 J 1W		

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R33		*	RS14DB3D180J	FL-PR00F RS 18 J 2W		
R42			RS14DB3D220J	FL-PR00F RS 22 J 2W		
R62		*	RS14DB3D180J	FL-PR00F RS 18 J 2W		
R84			RS14DB3D3R3J	FL-PR00F RS 3.3 J 2W		
R123			RN14BK2C1212F	RN 12.1K F 1/6W		
R126,127			RN14BK2C1212F	RN 12.1K F 1/6W		
R128,129		*	RN14BK2C1472F	RN 14.7K F 1/6W		
R130,131			RN14BK2C1782F	RN 17.8K F 1/6W		
R132,133			RN14BK2C1212F	RN 12.1K F 1/6W		
R134,135		*	RN14BK2C5621F	RN 5.62K F 1/6W		
R136,137		*	RN14BK2C4642F	RN 46.4K F 1/6W		
R138,139		*	RN14BK2C1621F	RN 1.62K F 1/6W		
R140,141		*	RN14BK2C4642F	RN 46.4K F 1/6W		
R142,143			RN14BK2C1003F	RN 100K F 1/6W		
R144,145		*	RN14BK2C2150F	RN 215.0 F 1/6W		
R146,147			RN14BK2C1000F	RN 100.0 F 1/6W		
R148,149			RN14BK2C1002F	RN 10.0K F 1/6W		
VR1	1C		R10-4022-05	POTENTIOMETER(50K)LEVEL		
VR2			R12-3096-05	TRIMMING POT.(10K)ODA		
K1			S51-2074-05	MAGNETIC RELAY		
D1 -10			DSM1A1	DIODE		
D11			RD6.2E(B)	ZENER DIODE		
D12 -15		*	RD3.6F(B)	ZENER DIODE		
D16			RD10E(B)	ZENER DIODE		
D17 ,18			1SS133	DIODE		
D17 ,18			1SS176	DIODE		
D19			1SV147	VARISTOR		
D20 -27			1SS133	DIODE		
D20 -27			1SS176	DIODE		
D28 -32			1SS133	DIODE		
D28 -32			1SS176	DIODE		
D33			1SS133	DIODE		
D33			1SS176	DIODE		
D35			RD7.5JS(B)	ZENER DIODE		
D36 ,37		*	RD5.1JS(B2)	ZENER DIODE		
D38 -43			1SS133	DIODE		
D38 -43			1SS176	DIODE		
D45			1SS133	DIODE		
D45			1SS176	DIODE		
IC1			CX23035	IC(DIGITAL SIGNAL PROCESSOR)		
IC2			CXK5816M	IC(2K BYTE X8 RAM (CMOS))		
IC2			HM6116FP-4	IC(16K RAM)		
IC2			MB8416-20LPF	IC(16K RAM(CMOS))		
IC3			CX20108	IC(CD SERVO)		
IC4 ,5			TA7256P	IC(OP AMP X2)		
IC6			AN6556	IC(OP AMP X2)		
IC6			NJM4558D	IC(OP AMP X2)		
IC7			TC40H000P	IC(NAND X4)		
IC8		*	TC40H157P	IC(QUAD 2-TO-1 LINE DATA SEL		
IC9			UPD7516HCW-230	IC(MICROPROCESSOR)		
IC10			LM6416E-504	IC(MICROPROCESSOR)		
IC11		*	PST518B	IC(SYSTEM RESET)		
IC12			CX20152	IC(16-BIT D/A CONVERTER)		
IC13			TL084CN	IC(OP AMP X4)		

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IC14			UPD4053BC	IC(3-INPUT 2CH MPX/DE-MPX)		
IC15			NJM4560D	IC(OP AMP X2)		
IC15			NJM4560D-N	IC(OP AMP X2)		
IC16		*	AN7805F	IC(VOLTAGE REGULATOR/ +15V)		
IC17		*	AN7905F	IC(VOLTAGE REGULATOR/ -5V)		
IC18			UPC78L12	IC(VOLTAGE REGULATOR/ +12V)		
IC19		*	AN7912F	IC(VOLTAGE REGULATOR/ -12V)		
IC20		*	AN7905F	IC(VOLTAGE REGULATOR/ -5V)		
IC21			UPC78L05	IC(VOLTAGE REGULATOR/ +5V)		
IC22			M5218P	IC(OP AMP X2)		
Q1			2SC3246	TRANSISTOR		
Q2			2SA1286	TRANSISTOR		
Q3			2SA1015(Y,GR)	TRANSISTOR		
Q3			2SA1127NC(R,S)	TRANSISTOR		
Q3			2SA733(A)(Q,P)	TRANSISTOR		
Q4			2SC1685(R,S)	TRANSISTOR		
Q4			2SC1815(Y,GR)	TRANSISTOR		
Q4			2SC945(A)(Q,P)	TRANSISTOR		
Q5			2SK246(Y,GR)	FET		
Q6			2SA1286	TRANSISTOR		
Q7			2SA1015(Y,GR)	TRANSISTOR		
Q7			2SA1127NC(R,S)	TRANSISTOR		
Q7			2SA733(A)(Q,P)	TRANSISTOR		
Q8 ,9			2SC1685(R,S)	TRANSISTOR		
Q8 ,9			2SC1815(Y,GR)	TRANSISTOR		
Q8 ,9			2SC945(A)(Q,P)	TRANSISTOR		
Q10			2SA1015(Y,GR)	TRANSISTOR		
Q10			2SA1127NC(R,S)	TRANSISTOR		
Q10			2SA733(A)(Q,P)	TRANSISTOR		
Q11			2SD1302(S)	TRANSISTOR		
Q12			2SK246(BL)	FET		
Q13			2SK170(BL)	FET		
Q14 ,15			2SK125(3,4)	FET		
Q16 ,17			2SK246(Y,GR)	FET		
Q18			2SC1685(R,S)	TRANSISTOR		
Q18			2SC1815(Y,GR)	TRANSISTOR		
Q18			2SC945(A)(Q,P)	TRANSISTOR		
MECHANISM ASS'Y(X92-1060-02)						
1	3B	*	A10-0863-02	CHASSIS CALKING ASSY		
2	1B	*	A11-0174-03	SUB CHASSIS CALKING ASSY		
3	2B	*	A11-0132-03	SUB CHASSIS		
4	2B	*	A11-0134-03	SUB CHASSIS		
8	2B	*	B09-0044-04	CAP		
C1			C91-0085-05	CERAMIC 0.022UF N		
12	1A	*	D10-1266-03	SLIDER (L)		
13	2B	*	D10-1267-03	SLIDER (R)		
14	1A	*	D10-1268-03	SLIDER		
15	2A		D10-1269-08	ARM		
16	2B	*	D10-1270-04	ROD		
17	1B	*	D10-1271-03	ARM		
18	1A	*	D12-0105-15	CAM		
19	3B		D13-0159-08	GEAR		
20	3A		D13-0160-08	GEAR		

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21	2A	*	D13-0161-03	GEAR		
22	2A		D13-0162-08	GEAR		
23	2A		D13-0163-08	GEAR		
24	2B	*	D13-0164-04	GEAR		
25	3A,1B	*	D14-0106-04	ROLLER		
26	3A	*	D14-0107-04	ROLLER		
27	3B		D15-0220-08	PULLEY		
28	3B		D16-0104-08	BELT		
29	1B	*	D21-1051-04	SHAFT		
30	1B	*	D21-1052-04	SHAFT		
31	1A	*	D32-0122-04	STOPPER		
32	3B	*	D40-0353-05	DRIVE MECHANISM ASSY		
33	2A	*	D40-0354-05	DRIVE MECHANISM ASSY		
37	3A	*	F19-0348-04	BLIND PLATE		
			G11-1052-04	SOFT TAPE		
40	2A	*	G01-1710-04	COMPRESSION SPRING		
41	1B,3B		G01-0675-04	TORSION COIL SPRING		
42	1A,1B	*	G01-1523-04	EXTENSION SPRING		
43	2B	*	G01-1524-04	EXTENSION SPRING		
44	2A	*	G01-1525-04	EXTENSION SPRING		
45	2A,2B	*	G13-0166-04	CUSHION		
49	2A,2B	*	J02-0158-05	INSULATOR		
51	1A	*	J11-0066-14	CLAMPER		
52	2B	*	J19-2153-04	HOLDER		
53	3A		J21-3507-08	MOUNTING HARDWARE ASSY		
54	2A	*	J21-3509-03	MOUNTING HARDWARE ASSY		
55	2A		J21-3511-08	MOUNTING HARDWARE ASSY		
56	2B	*	J21-3513-04	MOUNTING HARDWARE		
57	2B	*	J21-3672-04	MOUNTING HARDWARE		
58	2A		J25-4483-14	PRINTED WIRING BOARD		
59	3B	*	J31-0233-05	COLLAR (Ø4.1X8)		
60	3A	*	J90-0143-03	GUIDE		
61	1A	*	J90-0157-03	RAIL		
62	3B	*	J25-4660-03	PRINTED WIRING BOARD		
63	1B	*	J99-0024-12	TRAY		
64	2B	*	J99-0025-13	TRAY		
65	2B	*	J99-0026-13	TRAY		
-			J61-0307-05	WIRE BAND		
			N29-0220-05	RETAINING RING (Ø2.4,CS)		
74	2A		N19-0143-04	FLAT WASHER (Ø3)		
75	2A		N19-0366-04	FLAT WASHER		
77	1A,3A	*	N19-0882-04	FLAT WASHER		
79	1A,1B		N29-0067-05	PUSH RIVET (3.5X4.5)		
80	3A		N29-0207-04	RETAINING RING (Ø2.5)		
J	2A,2B		N09-1306-05	TAPPING SCREW (Ø3X6)		
K	2A,2B	*	N09-1379-15	STEPPED SCREW (M2.6X15)		
L	2A,2B	*	N09-1380-05	STEPPED SCREW (M2.6X5)		
M	3B	*	N09-1381-05	STEPPED SCREW (M5X26)		
P	3A		N19-0891-04	FLAT WASHER		
S1 ,2	3A,2B	*	S46-1045-05	LEAF SWITCH		
S3	2A	*	S46-1046-05	LEAF SWITCH		

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84	3A		T42-0049-25	MOTOR ASSY		
85	2A		T42-0051-08	MOTOR ASSY		
86	2A	*	T42-0053-14	MOTOR ASSY		
87	1A	*	T50-1023-04	YOKE		
88	1A	*	T99-0222-05	MAGNET		

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DP-1000

SPECIFICATIONS

Audio

Number of channels	2 channels
Frequency response	4 Hz ~ 20 kHz, ±0.5 dB
Dynamic range	95 dB
Total harmonic distortion	0.0015% at 1 kHz
Channel separation	95 dB at 1 kHz
Wow & flutter	Unmeasurable limit
Line output level/output impedance	2 V/330 ohms
Headphones output level/impedance	32 mW/32 ohms

Disc

Playing time	Approx. 60 min/side
Diameter of the disc	120 mm (4-23/32")
Constant linear velocity	1.2 — 1.4 m/sec.

Signal format

Quantization	16 bits linear 1 channel
Sampling frequency	44.1 kHz
Channel modulation code	EFM (eight to fourteen modulation)

Pick up

Type	Optical pick up
Laser type	Semiconductor laser

General

Power requirements	120 V, 60 Hz (USA and Canada models) 120 V/220 — 240 V, 50/60 Hz (Switchable) (Other Countries)
Power consumptions	15 W
Dimentions	W 440 mm (17-5/16") H 88 mm (3-7/16") D 313 mm (12-5/16")
Weight (Net)	6.0 kg (13.2 lb)
Supplied accessories	Remote control unit RC-2000, Connection cables

Note:
We follow a policy of continuous advancements in development.
For this reason specifications may be changed without notice.

Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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			DP-1000			
201	1C	*	A01-1440-01	METALLIC CABINET		
202	2D	*	A20-4599-03	PANEL ASSY	KPUMUE	
202	2D	*	A20-4599-03	PANEL ASSY	XE	
202	2D	*	A20-4600-03	PANEL ASSY	T	
203	1C	*	A29-0059-03	PANEL ASSY		
204	1C	*	A70-0129-05	REMOTE CONTROLLER ASSY	KPUMUE	
204	1C	*	A70-0129-05	REMOTE CONTROLLER ASSY	XE	
204	1C	*	A70-0130-05	REMOTE CONTROLLER ASSY	T	
208	1C	*	B07-1415-02	ESCUTCHEON (TRAY)		
209	2D	*	B11-0124-04	SMOKED FILTER		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0123-03	WARRANTY CARD	T	
		*	B50-5911-00	INSTRUCTION MANUAL(ENGLISH)	KPUMUE	
-						
-		*	B50-5911-00	INSTRUCTION MANUAL(ENGLISH)	XE	
-		*	B50-5912-00	INSTRUCTION MANUAL(FRENCH)	PMXE	
-		*	B50-5913-00	INSTRUCTION MANUAL(SPANISH)	M	
-		*	B50-5914-00	INSTRUCTION MANUAL(ENGLISH)	T	
-		*	B50-5915-00	INSTRUCTION MANUAL(G,D,I)	E	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0269-04	CAUTION CARD	K	
-			B58-0326-04	CAUTION CARD		
-			B58-0327-04	CAUTION CARD		
-			B58-0389-04	CAUTION CARD		
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B59-0092-00	SERVICE DIRECTORY	UUE	
D1	1D		B30-0431-05	LED(LN21CPH) (DISC INDICATOR		
⚠ C1			C91-0023-05	CERAMIC 0.01UF AC250V	UMUE	
⚠ C1			C91-0647-05	CERAMIC 0.01UF P	KPXTE	
⚠ 214	1C		E30-0505-05	AUDIO CORD		
⚠ 215	1E		E30-0459-05	AC POWER CORD	E	
⚠ 215	1E		E30-0780-05	AC POWER CORD	KP	
⚠ 215	1E		E30-0812-05	AC POWER CORD	UMUE	
⚠ 215	1E		E30-1341-05	AC POWER CORD	X	
⚠ 215	1E		E30-1416-05	AC POWER CORD	T	
217	2C		G13-0439-04	CUSHION (55X10X1)		
-		*	H01-5672-04	ITEM CARTON CASE	KPUMUE	
-		*	H01-5672-04	ITEM CARTON CASE	XE	
-		*	H01-5673-04	ITEM CARTON CASE	T	
-		*	H10-1856-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-1857-12	POLYSTYRENE FOAMED FIXTURE		
-			H20-0417-04	PROTECTION COVER(460X370X360)	M	
-			H25-0224-04	PROTECTION BAG (800X400)	KPUUEX	
-			H25-0224-04	PROTECTION BAG (800X400)	TE	
-			H25-0232-04	PROTECTION BAG (235X350)		
223	2D,2E		J02-0126-05	FOOT		

E: Scandinavia & Europe* H:Audio Club K: USA P: Canada
T: England U: PX(Far East, Hawaii)
UE: AAFES(Europe) X: Australia M: Other Areas

⚠ indicates safety critical components.

CLASSIFICATION OF CHIP PARTS

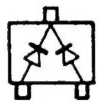
チップ部品の見方/Classification of Chip parts

Digital transistor/デジトラ	Symbol/記号	R1	R2
DTA/DTC114EK	14/24	10k	10k
DTA/DTC114YK	54/64	10k	47k
DTA/DTC114TK	94/04	10k	–
DTA/DTC124EK	15/25	22k	22k
DTA/DTC124XK	35/45	22k	47k
DTA/DTC143EK	13/23	4.7k	4.7k
DTA/DTC143TK	93/03	4.7k	–
DTA/DTC144EK	16/26	47k	47k
DTA/DTC144WK	76/86	47k	22k
DTA/DTC143XK	33/45	4.7k	10k

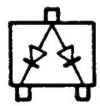
Transistor/トランジスタ	Symbol/記号
2SA1036K	H
2SA1037K	F
2SC2411K	C
2SC2412K	B
2SC2413K	A
2SC2059K	J
2SC3082K	S
2SB852K	U
2SD1383K	W
2SD1757K	AA
2SD1328	ID
2SC2412LN	L

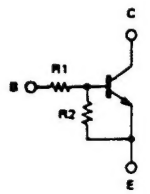
Diode/ダイオード

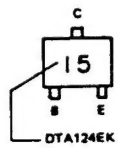
DAN202K Silver/シルバ



DAP202K Green/グリーン

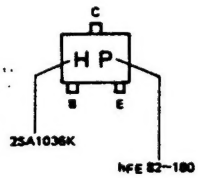






hFE

M : 39~ 82
N : 56~ 120
P : 82~ 180
Q : 120~ 270
R : 180~ 390
S : 270~ 560
E : 390~ 820
U : 560~1200
A : 1000~
B : 5000~



ABGLEICH

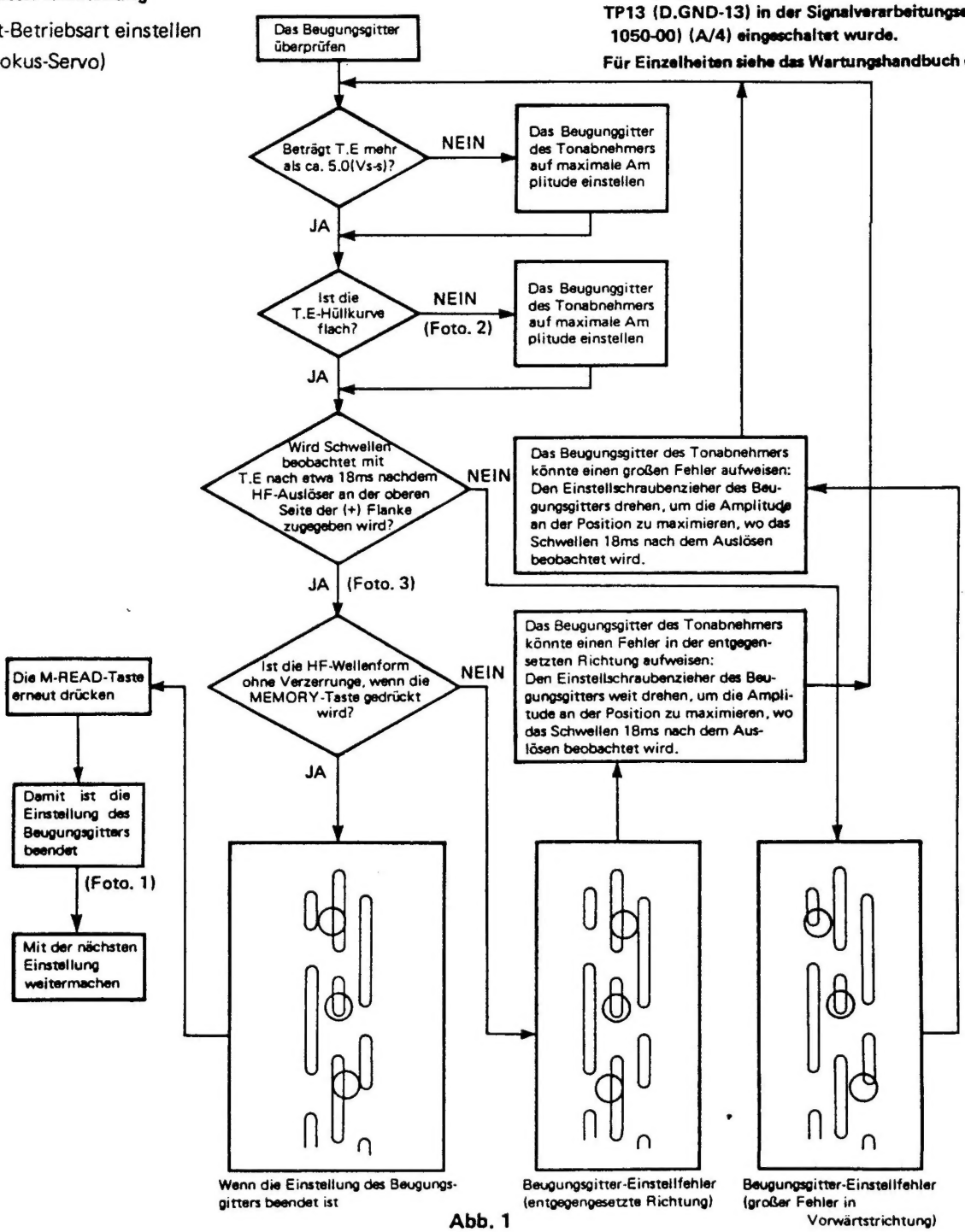
NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNGE	SPIELER-EINSTELLUNG	ABGLEICH-PUNKT	ABGLEICHUNG	ABB.
13	SPURHALTEVERSTÄRKUNG EINSTELLUNG	Eine Test-Disc, die so einwandfrei wie moglich sein sollte, auflegen und laden.	Eine Servo Einstellvorrichtung an CN4 von X29-1632(A/4) anschließen. (f=1.0kHz. V OUT=40mVrms)	Normale Wiedergabe	VR1 von X29-1632(B/6) drehen.	So einstellen, daß der an die Vorrichtung angeschlossene Millivoltmeter 40mVrms anzeigt.	(g)
14	DAC EINSTELLUNG	Test-Disc YDS-7 TYPE 3	Einen Millivoltmeter an den Ausgangsanschluß anschließen.	Wiedergabe 1 kHz. 0dB Signal	VR2 X32-1050(A/4) drehen.	So einstellen, daß ein Ausgangspegel zwischen 1.9 und 2.0Vrms erhalten wird.	(h)

Hinweis : Die Test-Betriebsart ist der Zustand, in der die Spannungsversorgung nach Kurzschließen von TP12 (TEST-12) und TP13 (D.GND-13) in der Signalverarbeitungseinheit (X32-1050-00) (A/4) eingeschaltet wurde.

Für Einzelheiten siehe das Wartungshandbuch des DP-2000.

Beugungsgitter-Einstellung

In der Test-Betriebsart einstellen (nur mit Fokus-Servo)



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